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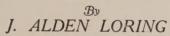






WHITE - BREASTED NUTHATCH ON A BIRD - HOUSE.





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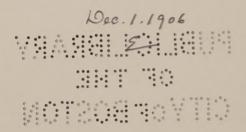
 $\mathcal{B}OSTON$

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Publishers' Preface

The plan of this work contemplates a short, timely nature story, or seasonable hint for every calendar day in the year, telling the reader just what time in the successive seasons to look for the different birds, beasts, flowers, etc., how to recognize and study them when taking observation walks for pleasure or instruction. Recognition of different creatures, etc., is assisted by numerous excellent illustrations, and alternate pages are left blank for reader's notes or record of things seen. A yearly report so kept, either by a single young person or a small group or club, cannot fail to be a source of continuous interest. not only while being made but after its completion. A club competing for the best and complete record so made should produce pleasure and instruction throughout the year.



Dedication

This book is dedicated to my first wild pet, who was the most interesting and intelligent creature I have tamed. He chased the children into their houses by pinching their legs; he awoke the dog by pulling its tail, and he pecked the horse's feet, then jumped back and crouched low to escape being kicked. Because of his thieving instinct he kept me at war with the neighbors. His last mischievous act was to pull the corks from the red and the black ink bottles, tip them over, fly to the bed, and cover the counterpane with tracks. I found him dead in the work-room the following morning, his black beak red and red mouth black.



Preface

This little book was written for the lover of outdoor life who has neither the time nor the patience to study natural history. There are many persons who are anxious to learn the common animals and flowers, their haunts and their habits, that they may enjoy Nature when they visit her. If they will take a minute each day to read the entry for that date, or if they will carry the book with them on their strolls into the country and while resting turn its pages, it may prove the means of discovering in fur or feather or flowering bud something before unknown to them.

The subjects chosen are of common interest, and nearly all can be found by any person who hunts for them assiduously. As the seasons vary in different localities, it has been impossible to set a date for the appearance or disappearance of an animal or a flower, that will apply alike to all parts of the country for which this volume is intended,

Eastern United States.

J. Alden Loring.

Oswego, N. Y.



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January

JANUARY FIRST

The best New Year's resolution a lover of nature can make, is a promise to provide the feathered waifs of winter with free lunches. This may be done by fastening pieces of suet to limbs and trunks of trees, and by placing sunflower seeds, bird seeds, or cracked nuts on the veranda roof or on the window-sill of your room, where sharp eyes will soon spy them.

JANUARY SECOND

Your boarders will be the birds that either remain with you throughout the year, or have come from the frozen North to spend the winter. These are the birds that feed upon seeds of various kinds, or the feathered carpenters that pry into the crevices of the bark, and dig into the rotten wood in search of the insects and the insect larvæ hidden there.

JANUARY THIRD

The chickadee, white-breasted nuthatch, and the downy woodpecker, keep company during the long winter months. They will appreciate your lunches most, and will call on you frequently throughout the day.

JANUARY FOURTH

Do not attempt to tame your visitors until they have made several calls for lunches. Then put a crude "dummy," with a false face, near the window, and raise the sash to let the birds enter. Within a few days the chickadees will perch upon Dummy's shoulders and take nut meats from his buttonholes.

JANUARY FIFTH

Having thus gained the chickadees' confidence, hurry to the window when you hear them call, and quietly take the place of the dummy. Of course they will be suspicious at first, and probably you will meet with many disappointments, but when you have succeeded in taming them to alight upon your hand or shoulder, you will find enjoyment in calling them to you by the gentle whistle to which you should accustom them.

JANUARY SIXTH

JANUARY SEVENTH

Persons not familiar with birds often mistake the white-breasted nuthatch for a woodpecker, for their actions are much alike. The nuthatch creeps about the trees in all kinds of attitudes, while the woodpecker assumes an upright position most of the time and moves in spasmodic hops. The young and the female downy woodpecker do not have the red crescent on the back of the head. The hairy woodpecker is another "resident" that looks like his cousin, the downy, but he is once again as large.

JANUARY EIGHTH

Winter in the North is a season of hardship and hunger to wild creatures. The otherwise wary and cunning crow often puts discretion aside when in search of food, and fearlessly visits the village refuse heaps, or the farmer's barnyard. In the orchards you will find where he has uncovered the decayed apples and pecked holes into them.

JANUARY NINTH

Even the mink, after days of fasting, is driven by starvation to leave his retreat in a burrow along a creek or river bank, and to forage upon the farmer's poultry. Poor fellow, he does not hibernate, so he must have food; fish is his choice, but when hard pressed, he will take anything, "fish, flesh, or fowl."

JANUARY TENTH

In the fields and lowlands, the scattered coveys of Bob-whites that have escaped the hunter, huddle for shelter from a storm under a stump or in a hollow log. Sometimes several days pass before they are able to dig through the drifts that imprison them. Should a heavy sleet-storm cover the snowy mantle with a crust too thick and hard for them to break through, starvation is their fate. Sportsmen living within convenient reach of quail coverts should watch over them in such weather and provide food and shelter for the birds.

JANUARY ELEVENTH

Even the flocks of horned (or shore) larks that feed on the wind-swept hilltops, pause occasionally and squat close to the ground to keep from being blown away. They have come from the North, and after passing the winter with us, most of them will return to Canada to nest.

JANUARY TWELFTH

A long period of cold freezes the marshes to the bottom, and compels the muskrats to seek the bushy banks, or to take shelter under the cornshacks or hay-stacks in the fields. Poor things, they of all animals endure hardship; for one can often track them to where they have scratched away the snow while searching for grass-blades, roots, acorns or apples that have fallen and decayed.

JANUARY THIRTEENTH

When the wind sweeps over the fields and the cold nips your ears, you are apt to come suddenly upon a flock of snowflakes, or snow buntings. Hastening back and forth among the weeds along the bank, they reach up and pick the seeds and crack them in their strong bills. They, too, like the horned larks, have come from the North, and in March will return again.

JANUARY FOURTEENTH

You cannot show your friendship for our native birds in any better way than by being an enemy of the English sparrow. He is a quarrelsome little pest and seems to be getting more pugnacious every year. He not only fights the other birds, but he has been seen to throw their eggs to the ground and to tear their nests to pieces. Be careful that he does not steal the lunches that you have provided for other birds.

JANUARY FIFTEENTH

How do the insects pass the winter? Much in the same way that our plants and flowers do. As the cold weather kills or withers the plants, leaving their seeds and roots to send forth shoots next summer, so most of the insects die, leaving their eggs, their larvæ, and their pupa to be nourished into life by the warm days of spring.





JANUARY SIXTEENTH

Insects are more dependent on climatic conditions than are birds or mammals. Nevertheless, even on the coldest days of winter, one may tear away the bark of a forest tree and find spiders which show signs of life, and if kept in a warm room for a few hours, they become quite active.

JANUARY SEVENTEENTH

The life of an insect which undergoes what is termed a "complete transformation," is divided into four stages: First, the egg; second, the larva; third, the pupa or chrysalis, and fourth, the adult insect or imago. Each of these changes is so complete and different from any of the others, that the insect never appears twice in an easily recognized form.

JANUARY EIGHTEENTH

Let us take the common house-fly for an example, and follow it through the changes that it must undergo before becoming adult. The mother fly deposits more than a hundred eggs at a time, in a dump at the back of the stable. The eggs hatch in half a day.

JANUARY NINETEENTH

Now we have the larvæ (maggots), as the second stage is called. These little creatures are white and grow very fast, shedding their skin several times before they take on a different form, which they do at the end of three or four days.

JANUARY TWENTIETH

The third, or pupa, stage is reached when a tiny brown capsule-like formation has taken the place of the maggot. In this stage no movement is apparent, nor is any food taken; there is only a quiet waiting for the final change, which comes in about five days, when, out from one end of a chrysalis, a fully developed fly appears.

JANUARY TWENTY-FIRST

The wonderful changes just described take place throughout most of the insect world. The larvæ of butterflies and moths are caterpillars; the larvæ of June bugs or May beetles are grubs. Some moth and butterfly caterpillars weave silken cocoons about themselves; some make cocoons from leaves or tiny chips of wood; some utilize the hair from their own bodies, while others attach themselves to the under side of boards, stones, and stumps, where, after shedding their skin, they hang like mummies until spring calls them back to life.

JANUARY TWENTY-SECOND

Bird lovers often make the mistake of putting out nesting-boxes too late in the season. They forget that most of the birds begin to look for nesting-sites as soon as they arrive in the spring, therefore the boxes should be in place before the prospective tenants appear. March first is none too early for many localities.

JANUARY TWENTY-THIRD

A natural cavity in a root, cut from a rustic stump, or a short length of hollow limb, with a two-inch augur hole bored near the top, and a piece of board nailed over each end, makes an artistic nesting-place for birds. Some persons prefer a miniature cottage with compartments and doors; though birds will often nest in them, the simpler and more natural the home, the more suited it is to their wants.

JANUARY TWENTY-FOURTH

A few minutes' work with hammer, saw, and knife, will convert any small wooden box that is nailed (not glued) together, into a respectable nesting-box. After it has been covered with two coats of dark green paint it is ready to be put in place. A shelf placed in a cornice, under a porch, or the eaves of a building, makes an excellent resting-place for the nest of a robin or a phœbe.

JANUARY TWENTY-FIFTH

Nesting-boxes may be placed almost anywhere that there is shade and shelter. They ought to be put beyond the reach of prowling cats and meddle-some children, at least fifteen feet from the ground, and to reap the benefit of your labor, they should be near your sitting-room window.

JANUARY TWENTY-SIXTH

It is better not to put an old nest or any nesting material in the houses. Birds prefer to do their own nest building, and they have their notions about house furnishing, which do not agree with our ideas. Birds have often refused nesting-boxes simply because over-zealous persons had stuffed them with hay or excelsior.

JANUARY TWENTY-SEVENTH

The birds that nest in bird-houses are the ones which, if unprovided with them, would naturally choose cavities in stumps, tree trunks, hollow limbs and the like. Almost without exception this class of nest-builders will return to the same nest year after year, so once a pair has taken up its abode with you, you may expect to see the birds for several summers.





January Twenty-eighth

The following are common tenants of bird-houses: Purple martin, bluebird, house wren, chickadee, tufted titmouse, white-breasted nut-hatch, and tree or white-breasted swallow. These birds are great insect destroyers, and most of them are sweet songsters, so they should be encouraged to take up their abode about our grounds.

JANUARY TWENTY-NINTH

After a deep fall of snow, the Northern shrike, or butcher-bird, is forced into the villages and towns for his food. Dashing into a flock of English sparrows, he snatches one and carries it back to the country to be eaten at his leisure. He is the bird that impales small birds, mice, and large insects on barbed-wire fences, or thorn bushes, after his stomach has been filled, and hence his name.

JANUARY THIRTIETH

Next to the beaver, the porcupine is the largest rodent in the United States; the largest porcupines live in Alaska. When on the ground, his short, thick tail drags in the snow, leaving a zigzag trail. When the snow is deep and the weather stormy, he spends much of his time in pine, spruce, and hemlock trees, feeding on the bark and twigs.





JANUARY THIRTY-FIRST

Hawks, before eating, tear away the skin and feathers from their prey; but owls eat everything, unless the prey be large, even bolting small birds and mammals entire. In the course of a few hours they disgorge pellets of indigestible portions, the bones being encased in the feathers or hair. The pellets may be found on the snow beneath the owl's roost, and they often contain skulls of mice as white and perfect as though they had been cleaned in a museum.

February

FEBRUARY FIRST

Mourning-cloak butterflies do not all die when winter comes. Those that hibernate are usually found singly or in clusters, hanging from the rafters in old buildings, or from the under side of stones, rails, limbs of trees, or boards. Those that appear in the spring with tattered wings, have probably been confined in buildings, and in their efforts to escape have battered themselves against the windows.

FEBRUARY SECOND

Does any one know how old the story is that tells us this is the day on which the bear and the wood-chuck rub their sleepy eyes and leave their winter quarters for the first time? If they see their shadow they return and sleep six weeks longer, but should the day be cloudy, they are supposed to remain active the rest of the season. This of course is only a myth.

FEBRUARY THIRD

Frogs usually pass the winter in the mud at the bottom of a stream, lake, or pond, or below frost-line in a woodchuck, rabbit, or chipmunk burrow. However, it is not uncommon to find them active all winter in a spring, or a roadside drinking-trough supplied from a spring. I wonder if they know that spring-water seldom freezes, and that by choosing such a place, they will not have to hibernate.

FEBRUARY FOURTH

The bloodthirsty weasel, which is reddish brown in summer (save the tip of his tail, which is always black), is now colored to match his surroundings, white. His tracks may be found in the woods and along the stump fences in the fields, where he has been searching for mice. He is one of the very few mammals that will shed blood simply for the pleasure of killing.

FEBRUARY FIFTH

Students of nature will find it much easier to identify birds if they take this opportunity before the migrating birds arrive, to study carefully the haunts of the common species. Many birds, you know, are not found beyond the bounds of a certain character of country chosen for them by nature. So should you see in the deep woods a bird that you at first take to be a Baltimore oriole or a bobolink, a second thought will cause you to remember that these birds are not found in the woods, consequently you must be wrong.

FEBRUARY SIXTH

The meadow lark, horned lark, bobolink, grass-hopper sparrow, vesper sparrow, and savannah sparrow, are all common birds of the fields and meadows, and they are seldom seen in the dense woods or in the villages.





FEBRUARY SEVENTH

Among the birds that one may expect to see in the woods and groves are the great-horned owl, hermit thrush, wood thrush, blue-headed vireo, golden-crowned thrush, scarlet tanager, blackthroated green warbler, and the black-throated blue warbler.

FEBRUARY EIGHTH

The swamp birds, and birds found along the banks of lakes, rivers, and streams, and seldom seen far from them, are the belted kingfisher, redshouldered blackbird, spotted and solitary sandpipers, great blue, night, and little green herons, and the osprey, or fish-hawk.

FEBRUARY NINTH

Cleared woodlands overgrown with thick bushes, shrubs, and vines, as well as the bushy thickets by the waysides, are the favorite nesting-places for another class of birds. In this category the common varieties are the yellow-breasted chat, yellow warbler, chestnut-sided warbler, Maryland yellow-throat, catbird, brown thrasher, mocking-bird, indigo bunting, and the black-billed and yellow-billed cuckoos.

FEBRUARY TENTH

The swimming birds spend the greater part of their time in the water. Most of them nest in the lake regions of Canada. They are the ducks, geese, and swans, of which there are nearly fifty species; the grebes and loons, eleven species; the gulls and terns, thirty-seven species; and the cormorants and pelicans, beside many other water birds that we seldom or never see in Eastern United States.

FEBRUARY ELEVENTH

Then, of course, there is a miscellaneous lot that nest in the woods, orchards, village shade trees, or any place where large trees are found. The flicker, downy and hairy woodpeckers, screech owl, white-breasted nuthatch, chickadee, robin, red-eyed vireo, warbling vireo, and the yellow-throated vireo, comprise some of the birds in this group.

FEBRUARY TWELFTH

About spring-holes the snow melts quickly and the grass remains green all winter. It is here that you will find the runways of meadow mice, or voles (not moles). They live on the roots and tender blades of grass, but at this time of the year hunger often compels them to eat the bark from fruit trees, vines, and berry bushes, and during severe winters they do great damage to apple trees.





FEBRUARY THIRTEENTH

The whistle-wing duck, or American golden eye, attracts your attention by the peculiar whistling sound that it makes with its wings while flying. As it gets its food (small fish, and mussels), by diving, it is able to remain in the Northern States all winter and feed in the swift-running streams, in air-holes, or other open water.

FEBRUARY FOURTEENTH

The skunk is one of the mammals who can hibernate or not, just as he chooses. During prolonged periods of cold, he takes shelter in a woodchuck's burrow, and "cuddling down," goes to sleep but a few inches from the rightful owner, who, in turn, is also sleeping in a chamber back of the thin partition of earth which he threw out in front of himself when he retired in the fall.

FEBRUARY FIFTEENTH

The first bird to actually voice the approach of spring, is the jolly little chickadee. His spring song, "spring's-com-ing," sounds more like "phæbe" than does the note of the phæbe itself, for which it is often mistaken. It is a clear, plaintive whistle, easily imitated, and when answered, the songster can often be called within a few feet of one, where he will perch and repeat his song as long as he receives a reply.



HIBERNATING WOODCHUCK.



FEBRUARY SIXTEENTH

Even the coldest weather does not close the swiftrunning streams, which gives the muskrats a chance to exercise their legs. It makes you shudder to see one swim along the edge of the ice, then dive, and come to the surface with a mouthful of food. Climbing upon the ice, he eats it, then silently slips into the water again. His hair is so well oiled, that an ordinary wetting does not penetrate to the skin.

FEBRUARY SEVENTEENTH

A crow's track can always be told from the tracks of other birds of similar size, because there is a dash in the snow made by the claw of his middle toe. Again, his toes are long and set rather closely together, and he seldom walks in a straight line, but wanders about as though looking for something, which is usually the case.

FEBRUARY EIGHTEENTH

Many persons believe that a porcupine has the power to throw his quills, but it is not so. When alarmed, he hurries, in a lumbering sort of way, for shelter. If you close in on him, he stops at once, ducks his head, humps his back, raises his quill armor, and awaits your attack. Approach closely, and he turns his back and tail toward you, and the instant you touch him he strikes with his club-like tail, also armed with quills, leaving souvenirs sticking into whatever they come in contact with.

FEBRUARY NINETEENTH

As the migrating birds are beginning to arrive in the Southern States, and will soon be North, let us consider the subject of migration. The reason why birds migrate North in the spring is not definitely known. Of course they leave the North because cold and snow cut off their food supply; but why in the spring do they abandon a country where food is plentiful and make such long flights, apparently for no other object than to bring forth their young in the North?

FEBRUARY TWENTIETH

Is it not wonderful how birds find their way, over thousands of miles of land and water, to the same locality and often to the same nest, season after season? How do we know that this is true? The reappearance of a bird with a crippled foot or wing, or one that has been tamed to feed from one's hand, is unmistakable proof.

FEBRUARY TWENTY-FIRST

Ducks and geese make longest flights of any of the migrating birds. They have been known to cover three hundred miles without resting. The smaller birds advance as the season advances, the early arrivals being the ones that do not winter very far south. Storm-waves often check their progress and compel them to turn back a few hundred miles and wait for the weather to moderate.

FEBRUARY TWENTY-SECOND

Most birds migrate at night; and a continued warm rain followed by a clear warm night is sure to bring a host of new arrivals. If you listen on moonlight nights, you can often hear their chirps and calls as they pass over. During foggy weather many meet with accidents by getting lost and being blown out to sea, or by flying against monuments, buildings, or lighthouses.

FEBRUARY TWENTY-THIRD

Mr. Chapman tells us that, when migrating, birds fly at a height of from one to three miles, and that our Eastern birds leave the United States by the way of the Florida peninsula. They are guided in their flight by the coast-line and the river valleys.

FEBRUARY TWENTY-FOURTH

Some migrants fly in compact flocks of hundreds, like the ducks, for example, while others, like the swallows, spread out. Then, again, there are birds that arrive in pairs or singly. With still others, the male precedes his mate by a week or ten days. Not infrequently a flock of birds containing several different species will be seen. This is particularly true of the blackbirds and grackles.

FEBRUARY TWENTY-FIFTH

You will notice that the birds are usually in full song when they arrive from the South. Save for a few calls and scolding notes, most of them are silent during the winter, but as spring approaches they begin to find their voices and probably are as glad to sing as we are to hear them.

FEBRUARY TWENTY-SIXTH

The snow-shoe rabbit, or Northern varying hare, changes its color twice a year. In winter it is snow white, but at this season it is turning reddish-brown. In the far Northwest these hares are so abundant that they make deep trails through the snow, and the Indians and white trappers and traders shoot and snare large numbers of them for food.

FEBRUARY TWENTY-SEVENTH

It makes no difference to the "chickaree," or red squirrel, how much snow falls or how cold it gets. He has laid by a stock of provisions and he is not dependent on the food the season furnishes. He is as spry and happy during the coldest blizzard as he is on a midsummer day, for he knows well where the hollow limb or tree-trunk is that contains his store of nuts or grain.

FEBRUARY TWENTY-EIGHTH

The Carolina wren is the largest member of the wren family in the Eastern United States. It breeds sparingly in Southern New York and New England, but is common about Washington, D. C., where it is a resident. It is found in the forests, thickets, and undergrowth along streams and lakes. Mr. Hoffman says that its song "is so loud and clear that it can be heard easily a quarter of a mile."

March

MARCH FIRST

A lady once asked me how to destroy the "insect eggs" on the under side of fern leaves. The ferns are flowerless plants, and they produce spores instead of seeds. Usually the spores are arranged in dotted lines, on the underside of the leaves (or fronds as they are called), and these are the "insect eggs" the lady referred to.

MARCH SECOND

Even at this early date the female great-horned owl or hoot owl, in some sections of the country, is searching for a place to build her nest. She usually selects an abandoned hawk's or a crow's nest, and after laying her four chalky-white eggs, she is often compelled to sit on them most of the night to prevent them from freezing.

MARCH THIRD

A question that is often asked is, what do the early migrating birds eat, when the ground is frozen and insect life is still slumbering. If you knew where to look, you would find many of the fruittrees and vines filled with dried, or frozen fruit. Frozen apples and mountain-ash berries constitute a large part of the robin's and the cedar-bird's food early in the spring, and the bluebirds and cedar-birds eat the shriveled barberry fruit.

March Fourth

In Florida, the black bear can get food throughout the entire year, but in the North he is compelled to hibernate during the winter. He is now beginning to think of leaving his den (in a cave, crevice of the rocks, or under the roots of a partially upturned tree) to begin his summer vacation. We are apt to think that bears are poor when they leave the den, but this is not always true, although their pelage does get very much worn from coming in contact with protuberances in their winter quarters.

March Fifth

The first plant to thrust its head above ground and proclaim the coming of spring is the skunk cabbage, or swamp cabbage. Even before the snow has entirely left, the plant will melt a hole and by its own warmth keep itself from freezing. In many localities at this date the leathery hoods are several inches above the ground.

MARCH SIXTH

In America the cowbird, like the European cuckoo, lays its eggs in the nests of other birds. All of our American cuckoos build their nests and raise their young in a manner creditable to parents.

MARCH SEVENTH

Clinging to the cliffs and rocks in the forests, the dark green leathery leaves of the polypody fern are nearly as fresh and green as when first snowed under. Hunt among the clusters until you find a fertile frond, then examine the back of it and see how closely together the spores are placed.

March Eighth

We will awaken some morning to find that during the night the song sparrows have arrived from the South; not all of them, to be sure, but just a few that are anxious to push North and begin nesting. All winter their merry song has been hushed, but now it gushes forth, not to stop again until the molting season in August.

MARCH NINTH

A porcupine should never be called a hedgehog. The hedgehog, an insectivorous animal, inhabiting Europe, is not found in the Western Hemisphere. It rolls itself into a ball when attacked, and the spines, which do not come out, are shorter, duller, and less formidable than those of the porcupine.



EUROPEAN HEDGEHOG.



MARCH TENTH

People, knowing that the robin is an early spring arrival, are always alert to see or hear the first one. Consequently the first song that catches their ear is supposed to be that of a robin, whereas often it is the spring song of the white-breasted nuthatch, which really has no resemblance to the robin's song.

MARCH ELEVENTH

When you see a bird with a crest (not one that simply raises its head feathers) it must be one of the following species: A blue jay, tufted titmouse, pileated woodpecker, cardinal grosbeak, (also called redbird and cardinal), Bohemian waxwing, or a cedar-bird. These are the only birds inhabiting the Eastern States that wear true crests. The belted kingfisher and many of the ducks and herons have ruffs and plumes but these can scarcely be considered crests.

MARCH TWELFTH

Some scientists contend that, owing to their intelligence, ants should rank next to man and before the anthropoid apes. They have soldiers that raid other ant colonies and capture eggs, and when the eggs hatch, the young are kept as slaves; they have nurses that watch and care for the eggs and helpless larvæ, and cows (Aphids) that are tended with almost human intelligence.

MARCH THIRTEENTH

The Audubon Society has stopped the slaughter of grebes. Before the enactment of the laws framed by the society, these duck-like birds were killed for their snow-white breasts, which were used for decorating (?) women's hats. Grebes are now migrating to the lakes of the North, where they build floating nests of reeds.

MARCH FOURTEENTH

The only sure way to tell a venomous snake is to kill the reptile, open its mouth with a stick, and look for the hollow, curved fangs. When not in use they are compressed against the roof of the mouth, beneath the reptile's eyes. They are hinged, as you can see if you pull them forward with a pencil. The venom is contained in a sack hidden beneath the skin at the base of each fang.

MARCH FIFTEENTH

As a mimic and a persistent songster, the mocking-bird has no rival, but when quality is considered, I think we have several songsters that are its equal. The bobolink and the winter wren both have rollicking songs that are inspiring and wonderful, but to my ear there are no songs that equal those of the hermit thrush and the wood thrush. Still, the selection of a bird vocalist is a matter of choice which is often influenced by one's association with the singer.

MARCH SIXTEENTH

If you will look into one of the large cone-shaped paper nests of the bald-faced hornet, which hang to the limbs of the trees or under the eaves of the house, you will be almost certain to find a few house flies that have passed the winter between the folds of paper. They now show signs of life, and are ready to make their appearance during the first warm spell.

MARCH SEVENTEENTH

Before the snow has left, you are likely to see dirt-stained spots on the hillsides where the wood-chuck or ground-hog has thrown out the partition of dirt which kept the winter air from his bed-chamber. Of course he has not come out for good, but on warm, sunny days he will make short excursions from his burrow to see how the season is progressing. In the early spring, before vegetation sprouts, he finds it difficult to find good food in plenty.

MARCH EIGHTEENTH

The herring gulls that have been about our harbors and bays all winter, will not remain much longer. They are about to leave for their nesting grounds, in the marshes and on the islands of New England and Canada. In the fall they will return with their young, which wear a grayish plumage.

MARCH NINETEENTH

In winter meadow mice build neat little nests of dried grass on the ground beneath the snow. They are hollow balls about the size of a hat crown, with a small opening in one or two sides. The outside is made of coarse, rank grass, while the lining is of the finest material obtainable. The heat from the little animals' bodies soon melts an air chamber around the nest, into which lead many tunnels through the snow. As soon as the snow has melted, you will find these nests scattered about the fields and meadows, but they are empty now.

MARCH TWENTIETH

The fish crow is a small edition of the common crow. He is a resident of the Atlantic and Gulf coasts from South Carolina to Louisiana. His note resembles the "caw" of the Northern crow, minus the w, being more of a croak: "cak, cak, cak, cak." You will find him on the coast and along the rivers.

MARCH TWENTY-FIRST

The white-tailed deer of the deep forests have dropped their antlers by this time, and a new set has started to grow. (Elk, moose, caribou, and deer have antlers; sheep, goats and cattle have horns, and retain them throughout life.) Antlers are cast off annually, and a new set will grow in about seven months.



NEST OF A MEADOW MOUSE EXPOSED BY MELTING SNOW.



MARCH TWENTY-SECOND

The purple grackle, or crow blackbird, should make his appearance in Southern New York about this time. He is the large, handsome fellow who lives in colonies and builds his nest in pine, hemlock, and spruce groves near human habitations. As soon as his young are hatched, he frequents the banks of rivers and lakes and walks along in quest of insects. He is one of the few birds that walks.

MARCH TWENTY-THIRD

Screech owls are now nesting in natural cavities in apple-trees, but they should not be disturbed, for they feed on mice, beetles and other harmful animals. Owls are very interesting birds, but their wisdom is only in their looks. Their eyes are stationary, so in order to look sidewise, they must turn their head. Watch one and notice him dilate and contract the pupil of his eyes, according to the light, and the distance of the object at which he is gazing.

MARCH TWENTY-FOURTH

The American goldfinch, thistlebird, or wild canary, often spends the winter with us, but in his grayish-brown suit he is not recognized by his friends who only know him in his summer garb of black and yellow. The male and the female look alike now, but soon the male will don gorgeous colors and wear them until after the nesting season.



SCREECH OWL.



MARCH TWENTY-FIFTH

The scarlet heads of the velvet, or stag-horn sumach are very conspicuous on the rocky hillsides and gravelly bottoms. The fruit of the poison sumach hangs more like a bunch of grapes, while the staghorn fruit is in a massive cluster. Persons susceptible to poisonous plants should never approach any poisonous shrub, particularly when the body is overheated.

MARCH TWENTY-SIXTH

From the swamps and river-banks comes the clatter of loud blackbird voices. Flocks containing hundreds of these noisy fellows perch in the tops of the trees, resting after their long migration flight. From the babble, you recognize the "konk-a-ree" of the red-shouldered blackbird, the harsh squeaky notes of the rusty grackle, and the purple grackle. As you approach, the flock takes flight, and you discover that all of the red-wing blackbirds are males; the females have not yet arrived.

MARCH TWENTY-SEVENTH

In the dead of winter you may sometimes see a belted kingfisher along some swift-running stream, but as a rule, north of Virginia, few stay with us throughout the year. Most of them appear about this time, and you see them perched on some low limb overhanging a pond or a stream.

MARCH TWENTY-EIGHTH

From bogs, shaded woods, and sheltered high-ways, Nature's question-marks, the "fiddle-heads," appear above the loam. They are baby ferns, preparing to expand and wave their graceful leaves in the face of all beholders. These queer, woolly sprouts the Indians use for food, and birds also eat them.

March Twenty-ninth

The clear, sweet, and plaintive whistle "pee-a-peabody, peabody, peabody," (which to the French Canadian is interpreted "la-belle-Canada, Canada, Canada bird, is a common, early spring song, now heard in the swamps and thickets. This sparrow may be found about New York City all winter, but it passes North to nest.

MARCH THIRTIETH

Beneath hickory-nut, walnut, and butternut trees, you are sure to find large numbers of nutshells that have been rifled of their contents by red squirrels, chipmunks, meadow mice, and whitefooted mice. In nearly every instance, the intelligent little rodents have gnawed through the flat sides of the shell, directly into the meat, and taken it out as "clean as a whistle." But who "taught them" to select the flat side?

MARCH THIRTY-FIRST

The noisy kildeer is rare in Pennsylvania and New York, but it is a common plover in Ohio. Its note, "kildeer, kildeer, kildeer," is emitted while the bird is on the ground or in the air. This plover is very abundant in the far West, and when a hunter is stalking antelope, it often flies about his head, calling loudly and warning the game of danger. For this trait it is sometimes called "tell-tale plover."

April

APRIL FIRST

A question which puzzles scientists, is how the turtles and frogs (which have lungs) are able, at the close of summer, to bury themselves in the mud at the bottom of a river or pond and remain there until the following spring. The frogs appear a few days before the turtles are seen.

APRIL SECOND

The meadowlark's song, "spring-o-the-year," is heard at its best in this month and in May; but the note is one of the few that may be frequently heard in southern New England, during the entire winter. As its name implies, the meadowlark is a bird of the fields and meadows only, but it will often alight in the top of a tall tree and send forth its joyful song. Watch and listen for it now.

APRIL THIRD

As soon as spring arrives and the ice has left the streams, hordes of May or shad fly nymphs can be found working their way against the current a few inches from the shore. Catch a few of them and put them in a tumbler of water and watch their external or "trachea" gills working. The adult insects are abundant in summer, but at this time of the year (even earlier), the stone flies which flit over the melting snow are often mistaken for May, or shad flies.



MEADOW LARK



APRIL FOURTH

The name "purple finch" is very misleading, for the head, neck, breast, and throat of the bird are more crimson than purple. The female is often mistaken for a sparrow, as her color is dull, and her breast streaked. This finch often takes up its abode in the coniferous trees in the villages. "Its song bursts forth as if from some uncontrollable stress of gladness, and is repeated uninterruptedly over and over again." (Bicknell.)

APRIL FIFTH

If the season is not belated, you may expect to find the blood-root peeping through the rocky soil, on exposed brushy hillsides, or along the margins of the woods. You must look for it early, for its petals drop soon after the flower blossoms. The Indians used the blood-red juice which flows when the root is broken, to decorate their bodies.

APRIL SIXTH

The brush lots, roadways, and open forests in the Northern States, are now filled with juncoes on the way to their nesting grounds in Canada and the mountainous portions of this country. They are with us but a few weeks and will not be seen again until next fall. The pinkish bill and the two white outer tail-feathers are of great assistance in identifying this bird, for they are very conspicuous when it flies.

APRIL SEVENTH

While walking along the bank of a stream you are quite apt to surprise a pair of pickerel lying side by side in shallow water. Save for the vibration of their fins, and the movement of their gills, they do not stir. As you approach they dart off, and you see a roily spot, where they have taken shelter among the aquatic plants.

APRIL EIGHTH

The birds having white tail-feathers, or tail-feathers that are tipped with white, which show conspicuously when the owners are on the wing, are the meadowlark, vesper sparrow, chewink, snow-flake, junco, blue jay, white-breasted nuthatch, Northern shrike, kingbird, hairy woodpecker, downy woodpecker, nighthawk, and whip-poor-will.

APRIL NINTH

The clustering liverwort, hepatica, or squirrel cup, with its fuzzy stems and pretty flowers of various shades of blue, grow side by side with the white wood anemone, or wind-flower. As soon as the wood anemone blossoms, a slight breeze causes the petals to fall; that is why it is called "wind-flower."



DOWNY WOODPECKER.



APRIL TENTH

One of the birds that sportsmen have protected by prohibiting spring shooting, is Wilson's snipe, or jacksnipe. Like many of the early migrants it does not nest in the United States; consequently it is only seen in the spring and fall. It is a bird of the marsh and bog, seldom seen except by those who know where and how to find it.

APRIL ELEVENTH

The gall-flies, or gall-gnats, cut tiny incisions in the oak leaves and golden-rod stems, and lay their eggs between the tissues. These wounds produce large swellings which furnish the larval insects with food. If broken into at this season, one discovers that the galls on the golden-rod stems are pithy. Embedded in the pith is a white "worm," or a small black capsule, but if the "gall" is empty, a hole will be found where the fly emerged.

APRIL TWELFTH

The red-shouldered hawk is one of our common birds of prey. Its loud, somewhat cat-like cry, coming from the dense hardwood forests which border swamps, lakes, and rivers, at once attracts attention. A pair has been known to return to the same nesting locality for fifteen consecutive years. This hawk has proved itself to be of inestimable value to the farmer, and deserves his protection.

APRIL THIRTEENTH

For the past six weeks, chipmunks have occasionally come out from their nests of dried grass and leaves, made in one of their several tunnels beneath the line of frost under a stone pile, or a stump. Now they are seen every day. It is only of recent years that we have discovered that chipmunks destroy grubs and insects, thus rendering service for the nuts and grain that they carry away in the fall.

APRIL FOURTEENTH

Have you noticed how the robins congregate in the evening and battle with each other on the house-tops until dark? It is during the mating season that these fights take place. Long after the other birds have gone to bed, Cock Robin is awake, and shouting loud and defiant challenges to whoever will accept them.

APRIL FIFTEENTH

Fungi are the lowest forms of plant life. They subsist on living and dead organic matter, and not from the soil, as do most other plants. The bread molds, downy mildew on decaying fruit and vegetables, and the fungus that kills fish and insects, are all forms of fungi. Patches of luxuriant grass are seen where decaying fungi have fertilized the soil.

APRIL SIXTEENTH

APRIL SEVENTEENTH

At first the song of the spring peeper, which is really a *frog*, is heard only in the evening, but as the days get warmer, a perfect chorus of piping voices comes from swamps and stagnant pools. He strongly objects to singing before an audience, but it is well worth one's while to wait patiently and catch him in the act of inflating the skin beneath his chin.

APRIL EIGHTEENTH

On account of its tufted head, and clear, ringing song, "peto, peto, peto, peto," or "de, de, de, de," much like a chickadee (Chapman) the tufted titmouse is a well-known bird throughout its range: eastern United States, from northern New Jersey, and southern Iowa to the plains.

APRIL NINETEENTH

Where is the country boy or girl who does not know the "woolly bear," or "porcupine caterpillar," the chunky, hairy, rufous and black-banded caterpillar, that curls up when touched and does not uncoil until danger is over? They are the larvæ of the Isabella moth, and the reason for their appearance on the railroad tracks and wagon roads, is that they have just finished hibernating and are now looking for a suitable place to retire and change to chrysalides and then into moths.

APRIL TWENTIETH

In the Northern States, where the red-headed woodpecker is not very common, it is apt to be confused with other species of woodpeckers. The red-headed woodpecker is *scarlet down to its shoulders*. The eastern woodpeckers that have the red crescent on the back of the head are flicker, downy, and hairy woodpeckers.

APRIL TWENTY-FIRST

The gardener, while spading about the roots of a tree, will often throw out a number of white, chunky grubs, about the size of the first joint of one's little finger. These are the larvæ of the June, or May beetle. In the fall, they dig below frost line, where they remain until the following spring. After three years of this life, they emerge from the ground in May and June, perfect beetles.

APRIL TWENTY-SECOND

The myrtle, or yellow-rumped warbler, which spends the winter from Massachusetts, south, into the West Indies and Central America, and nests usually north of the United States, is very common now. It is found in scattered flocks. If in doubt of its identity, look for the yellow patch on the crown, and on the rump.

APRIL TWENTY-THIRD

The dainty little spring beauty, or claytonia, is another of the early blooming flowers. "We look for the spring beauty in April or May, and often find it in the same moist places — on a brook's edge or skirting of wet woods — as the yellow adder's tongue." (Dana.)

APRIL TWENTY-FOURTH

Toads are now beginning to leave their winter beds, in the leaves, under stones and the like. Did you ever tie a piece of red cloth on a string, dangle it over a toad's head, to see him follow and snap at it? Toads exude a strong acid secretion from the pores of the skin, which is distasteful to most predatory animals, excepting the snakes.

APRIL TWENTY-FIFTH

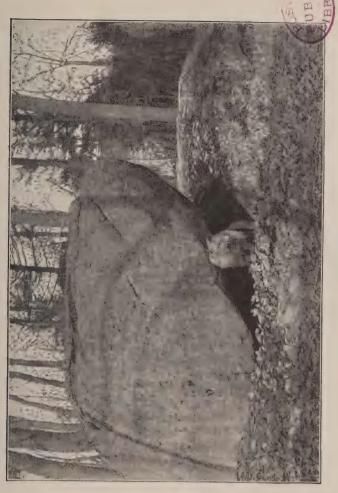
The yellow-bellied sapsucker is the only member of the woodpecker family whose presence is objectionable. His habit of puncturing the bark of trees and then visiting the cups to catch the sap, is well known. At any time of the year, row after row of these holes may be seen on fruit-trees (usually apple and pear) — written evidence of his guilt. See if you can catch him in the act.

APRIL TWENTY-SIXTH

Turkey buzzards, or vultures, are repulsive and ungainly when on the ground, but they are by far the most graceful of all our large birds when in flight. They are rarely seen in New England, or in the Northern States of the Middle Atlantic group, but in the South they are common throughout the year. Mounting high in the air, they circle 'round and 'round with scarcely a flutter of the wings, but nervously tilting to right or left, like a tight-rope walker with his balancing pole.

APRIL TWENTY-SEVENTH

This is about the time that young red foxes get their first sight of the wide, wide world. In the Southern States they have been prowling about with their parents for weeks; but north of New York City the farmer's boy, as he now goes for the cows in the morning, will frequently see a fox family playing about the entrance to their burrow.



FOX AT DEN.



APRIL TWENTY-EIGHTH

So ruthlessly has the trailing arbutus, or "Mayflower" as it is called in New England, been destroyed, that in places where it was once common, it is now almost extinct. Of its odor, Neltje Blanchan says: "Can words describe the fragrancy of the very breath of spring — that delicious commingling of the perfumes of arbutus, the odors of pines, and the snow-soaked soil just warming into life?"

APRIL TWENTY-NINTH

Why are the robins so abundant? Because they are all pushing forward to their Northern nesting grounds. Even in Alaska you would find a few pairs that have made the long, perilous journey in safety, raising their young in the balsam-poplars along some glacial stream, while in Georgia and Florida, where large flocks of them winter, not one would now be seen.

APRIL THIRTIETH

If you will sow a few sunflower seeds in a corner of the garden and let the plants go to seed, in the fall you are sure to have feathered visitors in the shape of goldfinches, chickadees, and nuthatches. The nuthatches (no doubt thinking of the hard times to come) will carry the seeds away, and store them in the crevices of the bark of trees.

May

MAY FIRST

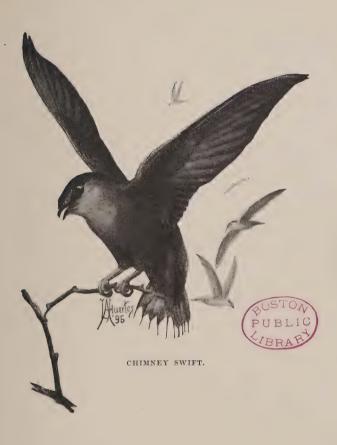
Of uniform grayish color, swift in flight, and shaped like cigars with wings, the chimney swifts might well be called the torpedo boats of the air. They never alight outside of chimneys or old buildings, and are usually seen flying high above the house-tops. For hours they chase each other through the air, keeping up a continuous "chip, chip, chip, chip, chip, chip, chip, chip, thip, chip, chi

MAY SECOND

No sooner does the frost leave the ground, than the moles begin to work close to the surface, making ridges where the earth is soft, and throwing out small mounds, when it is packed firm. The starnose mole inhabits damp soil, while the common mole likes the dry highlands. Although moles' eyes are small, he who thinks that they cannot see, should hold his finger before one's nose and see how quickly it will be bitten.

MAY THIRD

The marsh marigold, which grows in thick clusters in the swamps and along the streams, is now in full bloom. These flowers are often sold on the streets for "cowslips," a name wholly incorrect. The leaves make fine greens.





May Fourth

By this time one of your bird houses should be tenanted by a pair of house wrens. They migrate at night and the male arrives about a week in advance of his mate. Both birds assist in building the nest and in raising the young. As soon as the first brood has been reared, the lining of the nest is removed, and a new one built before the second set of six eggs is laid. Wrens may easily be tamed to take spiders and caterpillars (not the hairy ones) from the end of a stick and even from one's hand.

May Fifth

How much easier would be the work of nest building if we provided the birds with nesting material. Scatter strips of cloth, and pieces of coarse twine on the ground for the robins; hair from the tail and mane of horses for the chipping sparrows and wrens; twine and horse-hair for the orioles; bits of "waste" for the yellow warblers, and grapevine bark for the catbirds. None of these strands should be more than four inches long.

May Sixth

In some localities the shad-tree is now in full blossom. As you pause to cut off a few twigs, your ears are greeted by a never ceasing chorus of toad music. This is the toad's "love song"—a high-pitched, somewhat tremulous, and rather monotonous note.



ONE OF YOUR BIRD-HOUSES SHOULD BE TENANTED BY A WREN.



MAY SEVENTH

Perched upon a stump, fence post, or low limb of a tree, the Bob-white sends forth his clear, far-reaching whistle "Bob-white." In the North this bird is known to every boy as Bob-white, or quail, while in the South he is called "partridge." The last two names are misnomers, for we have no native quails or partridges in this country.

May Eighth

The fronds of the sensitive fern resemble somewhat the leaves of the oak-tree, and in some localities it is called the oak-leaf fern. It is found in damp, shady spots, and is one of the common ferns of New England. The delicate, light green leaves wither soon after being picked, and it is the first of the ferns to fall under the touch of Jack Frost.

May Ninth

A low, squeaking sound made with the lips is understood by some birds as a signal of distress. Orioles, wrens, catbirds, cuckoos, warblers, vireos, robins, and many other birds may be called close to one, particularly if the intruder is near their nest. You should learn this trick, for often it is possible to coax a shy bird from a thicket in order that it may be identified.

MAY TENTH

In summer the most common of our Northern wood warblers, yet one of the most difficult to see, on account of its liking for the tops of the tall trees, is the black-throated green warbler. Its song is a cheerful, interrogative, "Will you co-ome, will you co-ome, will you?" (Wright), or "a droning zee, zee, ze-ee, zee." (Chapman and Reed.)

MAY ELEVENTH

Why is it that the usually frisky and noisy red squirrels have become so quiet? If you could look into the nest of dried grass and bark, in a hollow tree-trunk, or a deserted woodpecker's nest, you would understand their reason for not wishing to make their presence known. Keep close watch of the opening, and some day you will see several little heads appear, and in a few days a family of squirrels will be scrambling about the trees. Pretty and graceful as these squirrels are, they do great damage by destroying the eggs and young of birds.

MAY TWELFTH

Wintering south of Central America, the veery, or Wilson's thrush, should now appear in the vicinity of Albany. "A weird rhythm" is the expression sometimes used to describe the song of this bird. Weird it certainly is, and beautiful, as well, coming from the depths of some sombre wood, growing more sombre still as the night falls.

MAY THIRTEENTH

The wood thrush is much larger than the veery, and easily distinguished from the six other species of true thrushes of North America, by the large black spots on the breast, and the bright cinnamon head. As you listened for the veery, you probably heard the wood thrush's pure liquid song — so far away that you could not catch the low after-notes. To me, the flute-like quality of the wood thrush's song makes it the most enchanting of all bird music.

May Fourteenth

At intervals during the day, a distinct booming sound is heard coming from the forests. At first the beats are slow and measured, but as they are repeated the time quickens, until they finally blend, and then gradually die away. This is the "drumming" of the ruffed grouse, produced by the cock bird beating with his wings against the sides of his body. At this time of the year it is his love song, but you can hear it at other seasons as well.

MAY FIFTEENTH

Visit again the locality where a week ago you heard so many toads, and what do you find? Long strings of gelatine-covered specks strewn on the bottom of the pond. These black spots are the eggs of the toad, and the gelatine is put around them to protect them and to furnish the first meal for the young polywogs.

MAY SIXTEENTH

To find a hummingbird's nest, snugly saddled on a branch of a maple or apple tree, ten feet or more above the ground, requires patience and keen eyesight. Unless you have seen one, you almost surely would mistake it for a bunch of lichens. It is a neat little structure of downy material covered with bits of lichens, fastened with spider and caterpillar webs.

MAY SEVENTEENTH

It would interest you to visit a zoological park to study the growing antlers of a deer or an elk. A pair of black antlers, "in the velvet," as the hunters call it, have taken the place of the bony-colored ones shed in March. Just now they are somewhat flexible, and feverishly hot from the steady flow of blood that feeds them. If they are injured at this time, the owner might bleed to death.

MAY EIGHTEENTH

"Caw, caw, caw, ka, ka, ka, ka-k-k-r-r-r-r." It sounds as though a crow were being strangled. Looking in that direction you see a large black bird fly from the woods to a meadow. After filling her beak with food she returns. No sooner is she within sight of the young crows, than they flap their wings, open their mouths and caw until the stifled, guttural sounds tell you that the morsel is being swallowed.

MAY NINETEENTH

When perched or flying the bobolink sends forth his jolly song in such a flood of ecstasy that you would scarcely be surprised to see him suddenly explode and vanish in a cloud of feathers. Would that we could overlook the damage he does to Southern rice crops.

MAY TWENTIETH

Before now you have noticed the dainty little Jack-in-the-pulpit in the damp, shady woods and marshes. Would you suppose that this innocent looking plant is really an insect trap? The thick fleshy "corm" when boiled is quite palatable, but who would think so after digging it from the ground, cutting into it, and feeling the sharp prickly sensation it gives when touched with the tongue?

MAY TWENTY-FIRST

The song of the brown thrasher can easily be mistaken for that of a catbird, particularly as both birds inhabit roadways, thickets, and open brush lots. The male, while singing to his mate, nearly always perches in the top of a tall bush or tree. His song is a disconnected combination of pleasant musical tones, which might be arranged so as to sound thrush-like in effect, but they are usually uttered in pairs or trios, rather than in the modulated phrase of the hermit or the wood thrush.



MALE BOBOLINK IN SUMMER PLUMAGE.



MAY TWENTY-SECOND

Look intently at the bottom of shallow streams or ponds and you will see what appear to be small twigs and sandy lumps moving about like snails. These are the larvæ of the caddis fly. Pick up one and poke the creature with a straw. You now discover that it lives in a case made of gravel, or sand, or tiny shells, or pieces of bark, all glued together in a perfect mask.

MAY TWENTY-THIRD

Keep watch of any brown bird about the size and shape of a female English sparrow, that you see hopping about the trees and bushes, peeping under bridges, and looking into hollow limbs of trees. She is a cowbird, or cow bunting, looking for the nest of another bird who is away for the moment. When she finds one, she will slip into it and drop one of her eggs, which will be hatched and the birdling reared by the foster mother, unless she can manage to get rid of it.

MAY TWENTY-FOURTH

The Greeks were persistent in their belief that the harmless red, or fire salamander, found only in damp and shady places, was insensible to heat. In reality the reverse is true. Its delicate skin cannot even withstand the sun's rays. During sunny days it hides under leaves and logs, coming forth only after storms, or at night.

MAY TWENTY-FIFTH

If there are currant or gooseberry bushes about your grounds, you must know the yellow warbler, or summer yellowbird. He is the little chap, almost pure yellow, who hunts carefully under each leaf for the caterpillars that attack the bushes. The female lacks the reddish streaks on the under parts, and her crown is not as bright as that of the male. Do not confuse this bird with the male American goldfinch, which just now has a yellow body, but black crown, wings, and tail.

MAY TWENTY-SIXTH

Quite unlike the strings of beady eggs of the toad, the eggs of the frogs are attached in a bulky mass to sticks or to the limbs of aquatic plants in sluggish or stagnant water. But there is the same gelatine-like casing around each black egg.

MAY TWENTY-SEVENTH

In the Northern States, where he nests, the redstart is often seen in the shade-trees along our streets, as well as in the groves and forests. "'Ching, ching, chee; ser-wee, swee, swee-e-s' he sings, and with wings and tail outspread whirls about, dancing from limb to limb, darts upward, floats downward, blows hither and thither like a leaf in the breeze." (Chapman.)

MAY TWENTY-EIGHTH

In the evening you often see a chimney swift (it is not a swallow) flying back and forth over dead tree-tops. Each time it pauses as though about to alight, but after what seems to be a momentary hesitation, it passes on. With a field-glass you might detect it snapping off the twigs and carrying them into an unused chimney, where it fastens them to the bricks with a glutinous saliva. One after another the twigs are glued together until a bracket-like basket is made, and in this the four white eggs are laid.

MAY TWENTY-NINTH

It is now time to look in the meadows for the dainty blue-eyed grass, or blue star; in the marshes for the purple or water avens, and the white hellebore, or Indian poke; and in the damp shady woods for the blossoming mandrake, or Mayapple.

MAY THIRTIETH

Judging from the name, one might expect to find the pewee, or wood pewee, in the woods only, but his high plaintive "P-e-w-e-e, p-e-w-e-e," first rising, then falling, coming from the tops of the village shade-trees, is one of the last notes heard at the close of the day. Short as the song is, he frequently sings but half of it.

MAY THIRTY-FIRST

Birds are often great sufferers from heat. The open bill, drooping wings, and panting body, all testify to this fact. A bird sitting on an unshaded nest during a hot day is an object for our pity. Fill flower-pot saucers with fresh water, and place them in depressions about the grounds. The birds will get great relief from these drinking and bathing dishes, and your opportunity for observation will be increased.

June

JUNE FIRST

One night last summer, a moth laid a circular cluster of eggs at the end of a limb. Not many days ago the eggs hatched and the caterpillars have begun to spin a silk tent in the crotch of several branches. Every time these tent caterpillars (for that is their name) go out to feed upon the leaves, they spin a thread by which they find their way home. After they have eaten their fill, they will drop to the ground to seek a hiding-place and there turn into moths.

June Second

The fertile fronds of the cinnamon fern break ground before the sterile ones come up. They appear to shoot from the centre of the crown-shaped cluster, and are light cinnamon color when mature. By the last of June the fertile fronds have withered, leaving only the sterile ones which the amateur is quite sure to confuse with the interrupted fern.

JUNE THIRD

While driving in the country your attention is often drawn to the swallows that are flying about the barns. Two species are common, one has two long tail feathers that fork. This is the barn swallow, and his mate builds her nest inside the barn, on a rafter or against the planking. It is always open on top and lined with soft material.





June Fourth

The eave swallow lacks the forked tail, and the rump is cinnamon-buff. Usually the female builds her globular shaped mud nest under the eaves of an unpainted barn. Hundreds of mud pellets are neatly welded together and an opening is left in the front. As these swallows also build against cliffs, they are known as cliff swallows in some localities.

June Fifth

The nesting season is now at its height, and you will soon see young birds about the grounds. The old birds may be away looking for food. Let us remember that it is better to let Nature work out her own problems. Instead of catching the birdlings and forcing them to eat unnatural food (only to find them dead a few hours later), put them back into the nest when it is possible, or if they are strong enough, toss them into the air and let them flutter to the branches of a tree beyond the reach of cats.

JUNE SIXTH

This is about the time that turtles hunt for a sandy bank in which to make a depression where they may deposit their eggs — that look so much like ping-pong balls. The eggs are covered with sand and left for the sun to hatch. The young dig through the shallow covering and take to the water.

JUNE SEVENTH

If you wish to see one of the most gorgeous of wood birds, the scarlet tanager, you must find him now, for, after the nesting season, he loses his black wings and tail and bright red dress, and dons the sober green hue of his mate. You will find him living in the maple groves, and the heavy forests of maple, oak, beech, and chestnut. His song, though not so loud as either, resembles both that of the robin and the rose-breasted grosbeak.

June Eighth

In the low-lying meadows, and in the marshes, the towering stems of the blue flag, or blue iris, have already blossomed. Nature has so constructed this handsome flower, that were it not for the visits of bees, and other insects, its seeds would remain unfertilized.

June Ninth

The orchard oriole is far from common north of the States parallel with southern New York. It migrates to Central America in winter, as does its cousin, the Baltimore oriole, who is named for Lord Baltimore. It lives in orchards, and you should look in apple and pear trees for its graceful pendent nest, built of the stems and blades of grass neatly woven together, like the nest of a weaver bird.

June Tenth

When by pure strategy you have outwitted a pair of bobolinks, and have succeeded in finding their nest, you have indeed achieved a triumph. To be successful, take your field-glasses, and secrete yourself near a meadow where you can watch a pair of bobolinks without being seen. Wait until one or both birds have made repeated trips to a certain spot, then with eyes riveted on the place, hurry forward, and as the bird rises, drop your hat on the spot and search carefully about it until the nest is found.

June Eleventh

The robin, song sparrow, vesper sparrow, chipping sparrow, phoebe, and house wren by this time have their first fledgelings out of the nest. They usually raise two, and sometimes three broods in a season. While the father bird is busy caring for the youngsters, the mother is building another nest or laying a second set of eggs.

June Twelfth

In damp low-lying fields at this season, beds of bog cotton decorate the landscape. Its silken tassels sway gracefully in the breeze, and at a distance one could easily mistake them for true flowers.

June Thirteenth

Although the meadow lark and the flicker are about the same size, and each has a black patch on its breast, they need never be confused. The flight, as well as the difference in color, should help in their identification. The flicker's flight is undulating; while the meadow lark flies steadily, and the wings move rapidly between short periods of sailing. Again, the meadow lark's *outer tail feathers* are white, while the flicker's *rump* is white, both of which can be seen when the birds fly.

June Fourteenth

Visit the pool or waterway where you discovered the toad's eggs and you will find that they have hatched. The little black polliwogs, or tadpoles, have *eaten* their way out of the gelatine prison and are now schooled at the edge of the water. They subsist upon the decaying vegetation and minute animal life.

June Fifteenth

Our lawns are now the feeding ground of the first brood of young robins, great overgrown, gawky, mottle-breasted children, nearly as large as their parents. What a ludicrous sight it is to see them following their mother about, flapping their wings, opening their mouths, and begging for food every time she approaches them.

June Sixteenth

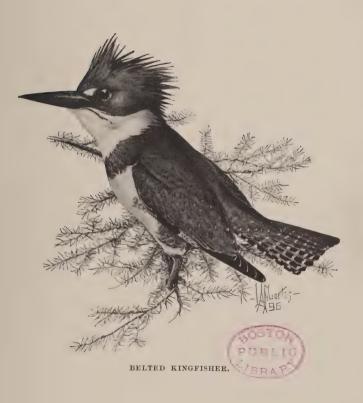
Leopard frogs and tiger frogs are often found in the tall grass a mile or so from water. Food is abundant and more easily caught in such places than along the streams. By the waterways the frog waits patiently for insects to pass, then springs at one with open mouth and, whether successful or not, he falls back into the water, swims ashore, and awaits another morsel.

June Seventeenth

A family of six young belted kingfishers perching on the edge of a bank, preparatory to taking their first flight, is a laughable sight indeed. Their immense helmet-like crests, their short legs, and their steel blue backs, give them a "cocky" appearance, and remind one of a squad of policemen on dress parade.

June Eighteenth

If the bird observer upon his first birding trip could be introduced to the song of a winter wren, there is scarcely a doubt that he would be a bird enthusiast from that minute. Mrs. Florence Merriam Bailey has come nearest to describing its song: "Full of trills, runs, and grace notes, it was a tinkling, rippling roundelay."





June Nineteenth

Throughout the mountainous region of the eastern States, the mountain laurel (spoonwood, broad-leafed kalmia, or calico bush) is in full blossom. It is a beautiful, sweet-scented, flowering shrub, and the bushes are ruthlessly destroyed by those who have no regard for Nature's future beauty.

June Twentieth

The habits of wasps and bees differ widely. Both orders are very intelligent. Wild bees live in hollow trees and make their cells of wax. At first they feed their young on "bee bread," which is made from the pollen of flowers, and afterward on honey. Wasps subsist on the juices of fruits, and insects; but they will eat meat. They make their homes in burrows in the ground, or in wood, or they construct nests of paper or mud.

June Twenty-first

The Maryland yellowthroat is more like a wren than a warbler, but it belongs to the warbler family. As you pass a thicket or a swamp, he shouts "This way sir, this way sir, this way sir," or "Witchety, witchety, witchety," and you might watch for hours without seeing him. But by placing the back of your hand against your lips, and making a low squeaking noise, you are likely to bring him to the top of a reed or bush.

June Twenty-second

It is quite easy to tell the difference between butterflies and moths. Remember, first of all, that butterflies are *sunlight* loving insects, while moths stir about only on cloudy days, or after dark. Butterflies, when at rest, hold their wings together over their backs; moths carry them open and parallel with the body. Again, the antennæ, or "feelers," of butterflies are quite club-like in shape, while the "feelers" of moths inhabiting the United States and Canada resemble tiny feathers.

June Twenty-third

If you are so fortunate as to have a pair of catbirds nesting in a *small tree* or a *bush* near your house, you have learned that the male is an accomplished songster. Have you ever noticed the father bird, when perched where he can overlook the nest, gently quivering his wings as though delighted at the thought of a nest full of little ones? After the eggs have hatched, these periods of delight are more frequent.

JUNE TWENTY-FOURTH

The bracket fungi that are attached to the trunks of forest and shade trees live to an old age. Some have been found over seventy-five years old. They are the fruit of the fungous growth that is living on and destroying the tissues of the tree. The puffballs are edible fungi before they have dried.





CATBIRD.



June Twenty-fifth

Some one has rightly called young Baltimore orioles the "cry-babies of the bird world." The approach of their mother with food is the sign for a general outcry, and even during her absence, they whimper softly, like disconsolate children. For the next ten days you may hear them in the shade-trees about our streets, particularly after a rain.

JUNE TWENTY-SIXTH

The long-billed marsh wren is found in tall, rank vegetation bordering rivers and lakes, and in the marshes at tide water. It nests in colonies in the rushes, and the male will build several other nests near the one his mate occupies. "While singing it is usually seen clinging to the side of some tall swaying reed, with its tail bent forward so far as almost to touch its head." (Chapman.)

JUNE TWENTY-SEVENTH

The kingbird, because of its pugnacity, is considered a ruler of other birds, although it might rightly be called a watchman and protector of the feathered world. It is a sober colored bird, save for the concealed patch of orange on the crown of the head. It is always the first bird to detect the presence of a feathered enemy. With loud, defiant cries it sallies forth to attack, and is not content until it has driven the intruder beyond range.

June Twenty-eighth

The spittle insect, or spittle bug, not a snake, frog, or grasshopper, is responsible for that bit of froth found on the stems of weeds and grasses. Push away the foam, and you will find a small, helpless insect apparently half-drowned. The liquid is a secretion from the body, whipped into froth by the creature's struggles. These are the larvæ of the insects which, when full grown, fly up before you in myriads as you walk through the fields.

June Twenty-ninth

The swallows are noted for their strong and graceful flight. Watch one, as he sails gracefully through the air, now swerving to the right, now to the left, and then dipping down to take a drink or to pick an insect from the water, scarcely making a ripple. The barn and eave swallows feed their young in mid air. It would appear that they are fighting, when the food is being passed from the old bird to the youngster.

June Thirtieth

A common bird along the country roads is the indigo bunting, or indigo bird. He perches on a wire, or on the topmost limb of a tall bush or tree, and sings a song quite sparrow-like in quality. As you approach, he drops gracefully into the foliage. His nest probably contains young birds.

July

JULY FIRST

After a shower in early July, myriads of tiny toads swarm on the lawns and walks. They have just abandoned their aquatic life as tadpoles, and have taken up a terrestrial mode of living. Their skin is so delicate that sunlight kills them, so they remain hidden until clouds have obscured the sun.

JULY SECOND

"Whip-poor-will, whip-poor-will, whip-poor-will." From dusk until daylight you hear its mournful song. The whip-poor-will spends the day in the forest. At twilight it comes forth to catch its insect prey, which it captures while flying. It makes hardly any pretence at building a nest, but lays its eggs upon the ground among the leaves, and so closely do both bird and eggs resemble their surroundings, that one might easily step on them unknowingly.

JULY THIRD

Attached to stones, stumps, and tree trunks along the fresh water ponds and streams, are the cast-off jackets of the larval dragon-fly. These larvæ remain in the water for more than a year, feeding upon the larvæ of other insects. Finally they leave the water, and a long rent is seen on the creature's back, and soon the dragon-fly appear.

JULY FOURTH

Similar to the whip-poor-will in shape, the nighthawk, or bullbat, differs from it in song and habits, — though, oddly enough, it perches lengthwise on a limb as the whip-poor-will does. It is neither a hawk nor a bat, for it is classed close to the chimney swift, and like the swift, it is of inestimable value as an insect destroyer. It is often seen in the daytime and the large white spot on the under side of each wing helps to identify it.

JULY FIFTH

The horned-tails are the large wasp-like insects that we see about the elm, oak, and maple trees. They bore holes a quarter of an inch in diameter in the tree trunk, and in these holes the eggs are laid. Sometimes they get their augers wedged and are unable to free themselves. The horned-tails are destructive, and should be killed whenever found. They sometimes remain in the pupa state so long, that the tree may be cut down and the wood made into furniture before they finally emerge.

JULY SIXTH

Before now you have probably seen the rubythroated hummingbird poising over the flowers in your garden. Sometimes he goes through strange antics. Mounting ten or fifteen feet into the air, he swoops down in a graceful curve, then turns and repeats the performance time and time again.

JULY SEVENTH

In travelling from burrow to burrow, woodchucks often make roads a quarter of a mile long through the grass. Occasionally you will get a long distance view of the "'chuck" as he scuds to the mouth of his hole, and rising on his hind legs, stands erect and watches you, then bobs out of sight. He is the most alert and keen-eyed of all American rodents, and his presence in such numbers, despite the war waged upon him, proves his ability to take care of himself.

JULY EIGHTH

"The interrupted fern is less a lover of moisture than its kindred. The fertile fronds are usually taller than the sterile leaves, and they remain green all summer. The spore-bearing organs are produced near the middle of the frond" (Clute), thus "interrupting" the pinnæ growth of the leaf. It is also called Clayton's fern.

JULY NINTH

The hind feet of a honey bee are provided with stiff fringes. With these the bee scrapes from the rings of its body the oily substance that is exuded, and passes it to the mouth. After chewing and working it between the mandibles (for the bee has mouth-parts for biting, and a proboscis for sucking the juices and honey from plants), it becomes soft and is then built into comb.



WOODCHUCK.



JULY TENTH

From the depths of the forest and thick underbrush, you will hear the "teacher, TEACHER, TEACHER, TEACHER" (in a swift crescendo) of the golden-crowned thrush, ovenbird, or teacherbird. It is a note of such volume that, instead of a bird the size of a robin, you are surprised to find that the songster is no larger than a song sparrow. He is called ovenbird because his nest is covered over and resembles somewhat an old-fashion bake oven.

JULY ELEVENTH

Some "glow-worms" are female fire-flies or lightning-bugs. There are at least a score of common insects that are luminous, besides some rare ones. With some species of fire-flies (our common fire-fly included) both sexes are winged, while with others the females lack wings and are known as "glow-worms."

JULY TWELFTH

With most birds, the female only builds the nest and incubates the eggs, after which both birds usually assist in bringing up the young. Some of the exceptions to this rule are the male Bob-white, house wren, catbird, blue-headed, yellow-throated, and warbling vireos, and the barn and eave swallows, each of which does his share of the domestic duties and takes care of the young birds.

JULY THIRTEENTH

Through ignorance we often persecute our best friends. The ichneumon fly is a parasitic insect that all should know. It lays its eggs in the larvæ of many injurious insects, and its larvæ feeds upon them. A great enemy to the horned-tails, it is invariably misjudged and killed, when discovered with its ovipositor inserted in one of the borings of the horned-tail fly.

July Fourteenth

How beautiful is the awakening of the evening primrose. No sooner is the sun beneath the horizon, than the calyx begins to swell and out springs a yellow petal. Then another and another appear before your very eyes, until the petals look like the blades of a screw propeller. The blossom is often less then five minutes in opening, and is immediately surrounded by tiny black insects.

JULY FIFTEENTH

Young spotted sandpipers, or "tip-ups," are able to leave their nest (in a slight depression in the ground) soon after the eggs hatch. It is indeed interesting to watch a family of these animated woolly balls on stilts, running along the shore with their parents. When pursued they sometimes will take to the water and cling to the vegetation on the bottom.

JULY SIXTEENTH

The perfectly round white heads of the button bush are now conspicuous along the streams, bogs, and lakes. The long slender styles project from all sides like the quills on the back of a frightened hedgehog. Although this shrub is a lover of water and damp soil, "it is sometimes found on elevated ground, where it serves, it is claimed, as a good sign of the presence of a hidden spring. The inner bark is sometimes used as a cough medicine." (Newhall.)

JULY SEVENTEENTH

During the haying season the birds hold high carnival. Robins, song and chipping sparrows, orioles, bobolinks, goldfinches, meadow larks, and flickers, all feed upon the insects that are now so easy to catch. A seat in the shade overlooking a new mown field is at present a good point from which to study birds.

JULY EIGHTEENTH

Huckleberries, red raspberries, and shad or service-berries, when ripe, are eaten by birds, squirrels, and chipmunks during the day, while at night various species of mice harvest them. The choke-cherries, elderberries, and blackberries are beginning to lose their bright red color, and they, too, will soon be feeding Nature's people.





JULY NINETEENTH

The pickerel-weed and arrow-head are in full bloom side by side at the water's edge of stream and pond. The blue flower-heads of the former contrast strikingly with the round white blossoms of the latter.

JULY TWENTIETH

The female flies and mosquitoes are the ones that bite, and it is the female and the worker bees and wasps that sting. The males of the two former groups are not provided with blood-sucking mouth parts, and the males of the bees and wasps lack stingers. When a less offensive remedy is not at hand, insect tormentors may be kept away by rubbing a piece of fat pork or bacon on one's face and hands.

JULY TWENTY-FIRST

The leaf-cutting bees resemble the bumblebees. Examine the bushes and trees and you will find circular holes in the leaves from which pieces have been cut. Hundreds of these tiny bits are used to line the rows of cells that the bees make in the ground or in wood. The cells are filled with pollen for the young bees to feed upon when they emerge from the eggs that are laid on top of the supply of "bee-bread."

July Twenty-second

Do you miss the rollicking song of the bobolink? Have you seen him recently in his spring dress of black and white? No; he has sung himself silent, and, as though in hope of escaping the guns of the Southern rice planters, whose crops he will plunder on his way South, he has disguised himself in a plumage of buff color, streaked with brown, quite like that of his mate.

JULY TWENTY-THIRD

"The summer is nearly over when the Joe-Pie weed (purple boneset) begins to tinge with 'crushed raspberry' the lowlands through which we pass. 'Joe Pie' is supposed to have been the name of an Indian who cured typhus fever in New England by means of this plant." (Dana.)

July Twenty-fourth

The ostrich fern is so named because the dark green fertile fronds which appear about this time, and form the centre of the vase-shaped leaf-cluster, resemble ostrich plumes. Mr. Clute says: "It is at its best in wet, sandy soil of a half-shaded island or river shore. Its development is rapid, often lengthening six inches in a day."

JULY TWENTY-FIFTH

A cuckoo pleading for her nest of young would soften a heart of stone. With wings and tail spread, she flutters almost into one's face, uttering pathetic and heartrending cries that beseech you not to touch her treasures. In pinfeathers the young of this bird, as well as those of the chimney swift, resemble baby European hedgehogs.

JULY TWENTY-SIXTH

Trees and flowers must sleep as well as animals. The dandelion closes its petals late in the afternoon, and as night approaches the water lily folds up tightly. Although summer in the North is shorter than the summer in the South, the days are several hours longer, so vegetation is growing here while their trees and flowers are sleeping. This provision of Nature gives the northern Indian vegetables and flowers in a country which we often call "a land of snow and ice."

JULY TWENTY-SEVENTH

The common milkweed is another one of Nature's fly traps. Examine some of the fragrant flower heads and you are almost sure to find a captive held firmly by the foot. "The silky hairs of the seedpods have been used for stuffing pillows and mattresses, and can be mixed with flax or wool and woven to advantage." (Dana.)



YELLOW-BILLED CUCKOO.



July Twenty-eighth

One of the simplest duties of a spider's life, is the stretching of a parallel web. Tiring of her location, the spider begins to spin a thread, or tangle a mass of threads together, until they are of sufficient buoyancy to support her weight. Then she fastens one end of a strand to the point she is about to leave, and clinging to the under side of her improvised balloon, floats away with the breeze. She pays out silk until the thread parts, or she finally comes in contact with some object, and so the cable is laid.

JULY TWENTY-NINTH

Young song sparrows, chipping sparrows, field sparrows, cedar-birds, bluebirds, and robins are streaked and mottled on the breast during the first few months of their lives. Another noticeable fact is that young birds fluff their feathers, and as the old birds are often thin from care and worry, the youngsters seem larger than their parents.

JULY THIRTIETH

The dobson, or "hellgrammite," is honored with about sixteen other names. Its chalky-white mass of eggs about the size of a dime are now common objects along inland waterways. As soon as the eggs hatch, the young dobsons drop into the water and hide beneath stones for three years, feeding on aquatic larvæ of insects.

July Thirty-first

The river crab, or crawfish, has five pairs of walking legs and six pairs of swimming legs. If a leg is lost, another will grow within a year. The female lays a large number of eggs, which are attached to the fringes of her body. These crabs have two pairs of antenna-like organs, one to feel with and the other for hearing. The compound eyes are set on two pegs that can be protruded or depressed at will.

August

August First

The mid-air gyrations of the kingbird are not very often seen. Flying some distance into the air, the bird utters a series of indescribable notes, and as he does so, he dodges, twists, and zigzags through the air as though trying to escape the talons of a hawk. After repeating the performance several times, he sails gracefully to a perch on a telegraph wire or the topmost twig of a tree or a bush.

AUGUST SECOND

During the summer, gray squirrels leave their winter homes, in hollow tree trunks and limbs, and construct summer nests. These nests are simply balls of leaves placed in oak, chestnut, maple, or beech trees. A squirrel will build several nests close to one another, from which he never wanders far.

August Third

The aphides, or plant lice, are known to every horticulturist and lover of flowers. They cluster on the under side of leaves, causing them to curl and wither. There are a great many species, and they are the insects that the ants care for. They are sometimes called "ant's cows," because they secrete a sweet substance of which ants are very fond.





August Fourth

The clusters of white berries of the red-twigged osier, or kinnikinnik, so common in damp localities, will turn blue later on. The northern Indians remove the thin outer bark from the twigs, and after scraping off the inner green bark with a knife, they dry it over a camp fire, powder it between the palms of the hand, then mix it with tobacco and smoke it.

August Fifth

The ant lion is the peculiar larva of a fly. It forms small, funnel-like depressions in the dry sand or dust, throwing out the grains with its broad, flat head. You probably have seen an unfortunate ant struggling desperately to gain the top of the death pit. Gradually the drifting sand carries it nearer and nearer the jaws of the ant lion, waiting at the bottom, and finally it falls a victim to Nature's ingenuity.

August Sixth

The moist and shaded highland where the thorn apple, willow, red-twigged osier, and second-growth maples thrive, is the haunt of the mild and timid woodcock. Tracks in the mud may be seen where one has been walking about, and here and there clusters of holes smaller than a lead pencil tell that it has been "boring" for worms with its long, sensitive bill.

AUGUST SEVENTH

The harvest fly (cicada, "lyre-man," or dog-day locust) is really not a *locust*. Unlike its relative, the seventeen-year locust, which for seventeen years remains in the ground, a larva, it produces young yearly. In the woods and villages, its monotonous buzzing, sizzling note is heard, and is taken as a sign of warm weather.

August Eighth

As though ashamed of man's carelessness, Nature covers the fire-swept forests with beds of purple flowers, called "fireweed." Sometimes acre after acre of these tall flowers sway back and forth beneath the charred or naked tree trunks, a pleasant relief to the eye of the traveller.

August Ninth

Look carefully among the leafy boughs and you may find the home of a leaf-rolling caterpillar. "The little creature begins by spinning a thread and fastening one end to some fixed point, and then attaches the other end to the loose leaf. By means of powerful, muscular movements of the front part of the body, . . . it hauls away on the ropes, slowly pulling it to the desired point, where it is held in place by a new and stronger thread. In this tent it resides, eating out the interior, and adding new stores of food, by sewing new leaves to the outside of the tent." (Packard.)

August Tenth

Families of barn and eave swallows now begin to congregate and to act restlessly. Flocks of red-shouldered blackbirds, mixed with purple and bronzed grackles, feed silently in the willows along the waterways, or are flushed from the grain fields. In the woods the chickadees, vireos, and warblers of many kinds keep company while they search among the trees for food. These are the first real signs to make the bird lover feel his feathered friends are soon to leave him.

AUGUST ELEVENTH

The muskrats now begin to build their winter houses, mounds of leaves, sticks, reeds, and aquatic vegetation, brought from the borders or the bottom of the ponds and streams, and piled from two to four feet above the surface of the water. The entrance to the *one large chamber* is always below the surface, and in this snug room a family of muskrats will spend the winter, but they *do not hibernate*.

August Twelfth

The Indian pipe, or corpse flower, is found only in heavily shaded woods. Like the fungi, to which it is kin, it subsists on decaying vegetation. Its ashy color and queer, fantastic shape make you hesitate to pick it, and after you have overcome the feeling and snipped off the stem, you find that it soon turns black, and is useless as an ornament.



RED - WINGED BLACKBIRDS.



AUGUST THIRTEENTH

Queen Anne's lace, wild carrot, and bird's nest, are the names given to the delicate, white lace-like flower which grows in such abundance in the open countries throughout the eastern States. Several flat-topped flower heads are arranged on stems along the stalk, and after the flowers have bloomed the stems of each head contract and form a sort of basket about the size of a hummingbird's nest.

August Fourteenth

"Now comes the season of our insect instrumentalists. . . . I have called them instrumentalists, for there are no insects, to my knowledge, that make any sounds with their mouths; they seem to be entirely void of vocal organs. . . . The song is produced by the rubbing or beating of some portion of the body against some other portion, these portions being so modified as to produce the rasping sound." (Brownell.)

AUGUST FIFTEENTH

The small-mouthed black bass is one of the gamiest of our fresh water fish. "The eggs are bound together in bands of ribbons by an adhesive substance. They adhere to stones on which they are deposited. The small-mouthed black bass ceases to take food on the approach of cold weather, and remains nearly dormant throughout the winter." (Bean.)

AUGUST SIXTEENTH

Often spending the entire winter in southern New York and New England, the American goldfinch and the cedar wax-wing are the latest birds to begin nest building. The young have just now left the nest, while the other birds have long since ceased their domestic duties, and the white-breasted swallow will soon start on his southward journey.

AUGUST SEVENTEENTH

If you will visit the zoological park at this time, you will find that since you last saw the buck deer, the antlers have hardenedlike bone. The velvet, too, is hanging from them in shreds, and the buck thrashes his antlers against the bushes, and rubs them on the tree trunks, in an effort to rid them of the velvet. Soon they will be in prime condition for battle with his rivals or his enemies.

AUGUST EIGHTEENTH

Children believe that a hair from the tail or mane of a horse will turn into a snake if left in water long enough. The so-called "hair snake" lives in the bodies of insects, such as grasshoppers, crickets, and beetles. The eggs of the worm are taken into the system when the insect drinks. Once hatched, the worm gnaws at its victim's vitals until the insect dies. They take to the water when full grown and lay their eggs in a long chain.



CEDAR WAXWING.



Notes .

AUGUST NINETEENTH

There are more than eighty species of our national flower, the goldenrod, in the United States. While a cluster of golden heads swaying in the breeze is beautiful indeed, it is with regret that we watch its ripening, for, like the harvesting of grain, and the flocking of bluebirds, it tells us of the approaching autumn.

August Twentieth

The female mosquito lays her eggs in a mass, that floats upon the surface of the water. The larvæ are the "wigglers" that swim about in a jerky sort of way in the rain barrels or pools of stagnant water. They float near the surface and breathe through a tube at the end of the body. When ready to emerge from this larval stage, they crawl out on a stick, stone, or bush, the skin on the back splits, and the mosquito emerges.

AUGUST TWENTY-FIRST

The narrow spear-pointed leaves of the walking fern cling to the moss-covered rocks, and in graceful curves reach out until their tips touch the ground and take root again. These fronds in turn take up the march, and so they creep about the rocks wherever there is soil sufficient for them to get a foothold. They are also reproduced by spores in the regular fern-like way.

AUGUST TWENTY-SECOND

The fresh-water clam furnishes us with a good quality of pearl, and from the shells pearl buttons are made. Along the muddy bottom of our inland lakes and rivers, you may see the clumsy writing in the mud where they have crawled. During a clam's infancy it lives a parasitic life, embedded in the body of a fish. It then emerges and drops to the bottom of the lake or river, where it spends the remainder of its life.

AUGUST TWENTY-THIRD

"Those horrid tomato worms are eating all my plants. They are positively the most repulsive creatures I know." A few weeks later a beautiful sphinx moth flutters into your chamber window. Do you recognize it as your hated enemy? It is he, — a "wolf in sheep's clothing."

August Twenty-fourth

The cardinal flower, or red lobelia, lives in the marshes and along the streams, where it often trespasses so near the brink, that a slight freshet floods its roots. "We have no flower which can compare with this in vivid coloring." (Dana.) In some localities it has been in bloom for weeks.

AUGUST TWENTY-FIFTH

Some evening after a thunder-shower, take a light and stroll along the garden path, or by the flower bed. Go slowly and step with caution, and you will see large numbers of angle worms—"night walkers" the fishermen call them—stretched out on the ground. Half of their length is hidden in the hole, ready at the slightest jar or noise to pull the remainder underground.

AUGUST TWENTY-SIXTH

Woodchucks, or "groundhogs," are very busy at this season of the year. They work overtime even on moonlight nights, for they have a contract with Nature to blanket themselves with layers of fat half an inch thick. If the contract is not filled before winter sets in, death may be the forfeit. Eat, eat, eat; they spend every minute digging up the grass roots, and eating off the clover heads, and they often make excursions into the farmer's garden.

August Twenty-seventh

Butter-and-eggs prefers the unsheltered lands where the sun can beat upon it. It came from Europe and "like nearly all common weeds this plant has been utilized in various ways by the country people. It yields what was considered at one time a valuable skin lotion, while its juices mingled with milk constitutes a fly poison." (Dana.)

August Twenty-eighth

Be sure to kill any bee-like insect that you see hovering about your horse's fore legs, for it is a bot-fly. After the eggs have been attached to the horse's leg-hairs, they hatch and the horse licks the larvæ and swallows them. Attaching themselves to the walls of the stomach, they live there for some time, but finally pass through the horse and fall to the ground, where they transform into bot-flies.

August Twenty-ninth

The solitary sandpiper is one of the early migrating birds that is now returning from its northern nesting grounds. It is always found near water, singly or in twos and threes. It has a habit of holding its wings over its head as it alights, showing conspicuously their dark tips. Like all sandpipers, it is not supposed to perch in trees or bushes; nevertheless it does so frequently when a person approaches its young or its nest.

August Thirtieth

Have you ever watched a spider making its web? The sticky fluid, which becomes a silk strand upon coming in contact with the air, pours from several holes, or spinnerets, at the end of the body. The threads are guided by the feet, and when the spinnerets are held apart, several strands are spun, but by contracting them one heavy rope is made.

AUGUST THIRTY-FIRST

Most crickets die at the approach of winter, but some hibernate. It is only the males that sing, and they do it by rubbing together the inner edges of the outside wings. They live on the moisture from the roots of various kinds of vegetables, and are not above eating insects.

September

SEPTEMBER FIRST

In various localities the Oswego tea is known as "bee balm," "fragrant balm," "Indian plume," and "mountain mint." "The bee balm especially haunts those cool brooks, and its rounded flower-clusters touch with warmth the shadows of the deep woods of midsummer. The Indians named the flower, o-gee-chee, 'flaming flower,' and are said to have made a tea-like decoction from the blossoms." (Dana.)

SEPTEMBER SECOND

Small mammals are abundant in the Adirondacks. Chipmunks and red squirrels are very tame, and if one sits still in the woods they will approach within a few feet. By watching at the base of logs and stumps, you can often see a red-backed mouse or a long-tailed shrew. The latter is the smallest of American mammals, its body being scarcely two inches in length.

SEPTEMBER THIRD

Mr. Scudder says that katydids have a day and a night song. He has watched one, and when a cloud obscured the sky, it, and all of those within his hearing, stopped singing and began their night song, but as soon as the sun came out, they again changed to their original song.

SEPTEMBER FOURTH

What a fine time the robins, cedar-birds, catbirds, and flickers are having in the choke-cherry bushes these days! Twenty or thirty of them may fly from a bush of ripened fruit as you approach. The streaked and speckled breasted young robins and cedar-birds are loath to leave their feast.

SEPTEMBER FIFTH

It is hard to believe that the yellow butterflies with the black tips and spots on their wings, so common about moist spots in the road, were once cabbage worms. Mr. Packard says that this species was introduced from Europe to Quebec about 1857. It rapidly spread into New England and has reached as far south as Washington, D. C. About Quebec it annually destroys \$250,000 worth of cabbages.

SEPTEMBER SIXTH

The bottle, closed, or blind gentian loves the damp fields and somewhat open road-sides. It resembles a cluster of bright blue buds about to open, but they never do. Neltje Blanchan says that bumblebees have hard work to rob it of its nectar and pollen. Climbing clumsily over the corolla, it finds the space between the lips and forces its head and trunk through the opening. Presently it backs out, and, with its feet and velvety body covered with pollen, flies away to fertilize some other gentian.

SEPTEMBER SEVENTH

Muskrats, like children, make "collections." A muskrat's "playhouse" is usually placed on a partly submerged stump, log, boulder, or the float of a boat-house. In some such place is piled all sorts of rubbish, — sticks, stones, bones, iron, glass, clam shells, and what not. Near by one may find a thick mat of aquatic grass, used by the owner as a resting-place. When camped in the vicinity of a playhouse, you will hear the clink of touching stones at night, and the splash of water.

SEPTEMBER EIGHTH

Damp, shaded flats along streams or spring-holes, are where the jewel-weed, or touch-me-not, clusters. The orange-colored blossoms have gone to seed and hang in tiny pods upon the stems. Touch one, and if it is ripe, it will burst with a suddenness that startles you.

SEPTEMBER NINTH

You must be unfamiliar with the country if you have never felt the sting of the nettle. The rib of the nettle leaf is armed with tiny, hollow spines, each of which is connected with a microscopic sack or bulb filled with poison, called formic acid. When the skin is pierced by the spines, the bulb is pressed, and the poison injected into the wound. Every boy of outdoor life knows that mud will relieve the irritation.

SEPTEMBER TENTH

The true locusts are the field insects commonly called "grasshoppers." They belong to a class of insects whose metamorphosis is not complete,—that is, they do not go through all of the several stages of transformation. The young, on emerging from the ground where the eggs were laid the summer previous, look like abnormal wingless grasshoppers. Grasshoppers live but a single season.

SEPTEMBER ELEVENTH

The little green heron will steal cautiously along the water's edge, with head drawn in, and beak pointed forward. Then he stops, and with a sudden lunge catches a minnow or a polliwog in his bill, and swallows it head foremost. When flushed, he laboriously wings his way across the stream and, alighting in the shallow water or in a tree, flirts his tail, stretches his long neck, and stands motionless a few minutes before starting on another fishing trip.

SEPTEMBER TWELFTH

At this season the banks of the rivers and streams shine with the golden blossoms of the wild sunflower, artichoke, Canadian potato, or earth apple. In late summer and early spring, freshets wash away the earth, leaving the edible, tuberous roots exposed for the muskrats, woodchucks, mice, squirrels, chipmunks, and rabbits to feed upon.

SEPTEMBER THIRTEENTH

Patiently Madam Spider sits and holds the cords of her telegraph system, waiting for some unfortunate to announce to her its capture. When she receives this message, out she rushes, and while the victim struggles she holds him with her legs, while other legs are busy binding him with cords.

SEPTEMBER FOURTEENTH

The American goldfinch is very much in evidence these days. He sways back and forth on the heads of the Canadian thistles, and clings to the ripened sunflower heads, the fruit of which he is very fond. When disturbed he flies away in graceful undulations, calling back to you, "fust-see-me-go; just-see-me-go; just-see-me-go."

SEPTEMBER FIFTEENTH

When overburdened with honey and bee-bread, large numbers of honey bees are drowned while attempting to cross wide stretches of water. Put your hand in the water and let one crawl into the palm. It will not sting so long as you do not squeeze or touch it. Note the two dots of golden pollen adhering to the cups on the hind feet. Gradually the bee regains strength and begins to dry itself. First fluttering its wings, then combing its fuzzy head and trunk with its legs, finally it is off in the direction of its hive.

SEPTEMBER SIXTEENTH

Clinging to the old stump fences, and covering the low bushes by the roadside, the wild clematis, or traveller's joy, smiles at the wayfarer and defies the efforts of the farmer to exterminate it. As the blossom goes to seed, a charming, foamlike effect is produced by the appearance of the many stamens and pistils.

SEPTEMBER SEVENTEENTH

This week the rose-breasted grosbeak, kingbird, Baltimore oriole, yellow warbler, ruby-throated hummingbird and yellow-breasted chat will probably leave for the South. They all pass beyond the United States to winter, and most of them go to Mexico, Central and South America. Good luck to them on their long journey, and may they all live to return to us again next summer.

SEPTEMBER EIGHTEENTH

The dense forests strewn with moss-covered logs, stumps, and boulders, and the rocky, fern-clad borders of woodland rivulets, are the home of the winter wren. Quite like a mouse in actions, he works his way over and under the fallen trees; in and out of the rocky crevices, until you quite despair of guessing where he will next appear.



YELLOW - BREASTED CHAT.



SEPTEMBER NINETEENTH

The next time you go into the country, catch two or three locusts (grasshoppers), and examine their bodies for locust mites. They are tiny red mites usually clustered at the base of the grasshopper's wings, and are easily found if you raise the wings slightly and look under them. Often they are found on house flies.

SEPTEMBER TWENTIETH

Nature employs many ingenious devices for distributing the seed of her plants. The downy seeds of the Canadian thistle, dandelion, prickly lettuce, dogbane, and milkweed are cast over the land by the winds. The common tare, the jewelweed, and the wood sorrel have devices for throwing their seeds. Seeds of many species of plants are contained in burrs or "stickers" that adhere to the coats of animals and are carried miles before they are finally planted.

SEPTEMBER TWENTY-FIRST

A belted kingfisher, when suddenly seized with a fit of playfulness, will skim over the water and plunge beneath the surface, sending the spray in all directions. Emerging, he continues his flight, repeating the performance every fifty feet or more, at the same time "rattling" loudly as though in great ecstasy.

SEPTEMBER TWENTY-SECOND

The thick, chunky purple heads of the Canadian thistle always attract the bumblebees, and you find them as eager for its nectar as they were for the Joe Pye weed a month or so ago. It is wonderful how much abuse a bumblebee will stand before he loses his temper. He is much more tractable than his cousin, the honey bee, or any of the wasps.

SEPTEMBER TWENTY-THIRD

Some animals lay by a supply of fat for winter, which they absorb while resting in comparative quiet in their burrows. Others are endowed with a hoarding instinct, so they gather and store nuts, grain, seeds, and fruit to last them until spring, while the remainder are forced to live upon the food that the season affords them, — a life of privation, in many instances.

SEPTEMBER TWENTY-FOURTH

The monarch butterfly is one of the common butterflies seen in early fall. It is something of a wanderer, going North in the spring and migrating South in the fall. Have you ever watched them floating through the air, high above your head and tried to estimate how high they were?

SEPTEMBER TWENTY-FIFTH

Fishermen often find piles of clam shells heaped under the exposed roots of trees or stumps, at or near the water's edge. This is the work of muskrats. After carrying the clams from the bed of the stream, the rats take them to the bank and leave them for the sun to open. Then they eat the clams, after which the shells are disposed of in little heaps.

SEPTEMBER TWENTY-SIXTH

Next to the red-shouldered hawk, the red-tailed hawk is the most common of the large hawks in Eastern North America. Although the farmers shoot it on sight, and the barn-yard fowls hurry to shelter at its cries, it is one of the farmer's best friends, because of the great number of grasshoppers and mice it captures. Its cry is a loud, high-pitched, "long-drawn out squealing whistle which to my ear suggests the sound of escaping steam." (Chapman.)

SEPTEMBER TWENTY-SEVENTH

You hear the mitchella-vine spoken of as "partridge berry," "twin-berry," and "squaw-berry." It is a small-leaved vine, very common in woods and shaded thickets. Winter does not harm its fruit, so it is a welcome treat to many birds and mammals in early spring. The buds appear in pairs, which form a double fruit with two eyes, or navels, thus giving it the name of "twin-berry."

SEPTEMBER TWENTY-EIGHTH

The water skate, or water strider, resembles somewhat a "granddaddy longlegs." It runs about over the surface of the water in search of microscopic insects, casting grotesque shadows on the bottom. It does not dive like the water boatman, but if it chooses it can take wing, and is often seen to spring into the air and grasp its prey.

SEPTEMBER TWENTY-NINTH

Our common sunfish builds a nest of stones and gravel on the bottom of a stream. "The male watches the nest and drives away all intruders. The species is usually hardy in captivity, but is subject to fungus attacks, which yield readily to a treatment with brackish water." (Bean.)

SEPTEMBER THIRTIETH

On moonlight nights skunks come out into the fields to feed upon beetles and grasshoppers. They are keen scented, and you will sometimes see where their claws have assisted in securing an insect that their nose has detected in the ground. They will often approach a man carrying a lantern, and after sniffing at it a few times will walk away and resume their hunt.



SKUNK HUNTING GRASSHOPPERS.



October

OCTOBER FIRST

This is the month when many of our birds depart for their southern winter resorts. The common ones that leave this week are the scarlet tanager, oven-bird, chimney swift, wood thrush, indigo bunting, and redstart.

OCTOBER SECOND

The workers and drone bumblebees die at the approach of winter, but the queen takes shelter under the bark of trees, in stone piles and in other places which offer protection, where she remains all winter. She then comes out and gathers moss and grass for a nest, or she may appropriate the deserted nest of a meadow mouse. After making several wax cells, she fills them with pollen and honey, deposits an egg in each cell, and when the young hatch, they feed upon the sweets.

OCTOBER THIRD

"'Among the crimson and yellow hues of the falling leaves, there is no more remarkable object than the witch-hazel in the moment parting with its foliage, putting forth a profusion of showy yellow blossoms, and giving to November the counterfeited appearance of spring.'" (Newhall.)



AMERICAN REDSTART.



OCTOBER FOURTH

When surprised while feeding, gray squirrels will resort to an ingenious method of escape. As the hunter approaches, the squirrel will scurry to the opposite side of the tree trunk, and as the hunter changes his position, the squirrel does likewise, keeping the trunk of the tree between itself and the enemy.

OCTOBER FIFTH

It is not always the large winged birds with the light bodies that fly the fastest. The swifts, grouse, pigeons, and ducks are the swiftest of fliers, yet they have heavy bodies and short or narrow wings. The eagles, hawks, owls, buzzards, and herons, on the other hand, have large wings and comparatively light bodies, yet they are noted for their slow and graceful flight, still they can fly long distances.

OCTOBER SIXTH

The white-footed mouse, deer mouse, or wood mouse, usually makes his home in a hollow stump, limb, or tree trunk. To prove that he can scramble up rough bark, as well as run upon the ground, he frequently builds a large, bulky nest of dried grass in a bush or low tree. These nests have a tiny aperture in one or two sides, and they are nearly always located in trees traversed by wild grape, or other vines.

OCTOBER SEVENTH

Insects "supply us with the sweetest of sweets, our very best inks and dyes, and our finest robes and tapers, to say nothing of various acids, lacs, and waxes; while few, who have not studied the subject, have any idea of the importance of insects and their products as articles of human diet." (Riley.)

OCTOBER EIGHTH

Many an amateur sportsman has mistaken the fall song of the peeper, coming from the tall forest trees, for that of a game bird or mammal. It is loud and clearer than the peeper's spring song, but the resemblance is easily detected after one knows that both songs are sung by the same frog. Now since the wood birds have ceased to sing, its song is quickly noticed.

OCTOBER NINTH

In size, shape, and actions, the English robin is similar to our bluebird, to which it is related. The English blackbird is a *thrush*, and our robin is the largest of American thrushes. In the Bermuda Islands the catbird is called "blackbird."

OCTOBER TENTH

"The flight of the flying fish is usually from four to six feet above the water, and it is sustained for fifty to one hundred feet. The general enlarged pectoral fins act as wings, and furnish the motive power. . . . On all up grades it gives a stiff wingstroke about every three feet, rises to overtop each advancing wave, and drops as the wave rolls on, like a stormy petrel." (Hornaday.)

OCTOBER ELEVENTH

Mushrooms and apples are often seen resting in the branches of trees. Should you examine one, very likely you would find the marks of a rodent's teeth in its sides. This is one of the ways a red squirrel has of storing food. When he placed the mushrooms there, did he know that they would dry and be preserved? If so, why did not instinct tell him that the apples would decay before spring?

OCTOBER TWELFTH

Once the alarm note of a crow is heard and its meaning understood, you can always tell when those keen-eyed birds have discovered a hawk or an owl. "Hak, bak, bak, bak, bak," they call, much louder, quicker, and in a higher key than the regular "caw, caw, caw." Rarely do they strike a hawk or owl, but they keep diving at it until it soars beyond their reach, or takes shelter in a tree.

OCTOBER THIRTEENTH

If you can surprise a muskrat in a small pond, notice that he does not use his front feet (which are not webbed) in swimming; but, like the frog and the toad, holds them close against the sides of his body. Ordinarily the tail is used as a rudder, but when he is hard pressed, he whirls it round and round so that it acts like a screw propeller.

OCTOBER FOURTEENTH

The brook trout is another fish that builds a nest. It makes a hollow in the bed of a brook or a spring, pushing the gravel aside with its nose, and carrying the stones in its mouth. By using its tail the cavity is shaped and then filled with pebbles, on which the eggs are laid, and covered with gravel. These "spawning" beds can now be seen in any spring-fed trout stream.

OCTOBER FIFTEENTH

As soon as the foliage falls from the trees it is easy to collect birds' nests; and it is no sin to do so then, inasmuch as the birds mentioned this week rarely use the same nest a second season. Take a trip into the country with the sole object of hunting for nests, and you will be surprised to see how many you can find. One hundred and ninety-eight bird homes have been counted during a three hours' walk. When it is possible to take a part of the limb to which a nest is attached, it is best to do so.

OCTOBER SIXTEENTH

Besides the large pendent nest of the Baltimore and the orchard orioles, skilfully suspended from the end of an elm, maple, apple, or pear tree limb, you will find many smaller hanging nests built by the several species of vireos. They are about the size of a tennis-ball; made of birch bark, paper, and pieces of dried leaves, fastened with spider and caterpillar webs, and they are lined with dried pine needles or dried grass.

OCTOBER SEVENTEENTH

The American goldfinch, "thistlebird" or "wild canary," usually places its nest in the angle of three twigs at the end of a slender branch that is nearly or quite perpendicular. The nest is larger than a base-ball, deeply hollowed and composed outwardly of pieces of cotton waste, plant fibres and fine bark, with a thick lining of willow or dandelion down, and other soft material.

OCTOBER EIGHTEENTH

The chebec (least flycatcher), wood pewee, and blue-gray gnat-catcher saddle their nests on the upper side of limbs, as the hummingbird does, and they use the same variety of material. They are so delicate in construction that a severe storm will send them to the ground.

October Nineteenth

The bulky basket nests of the cedar-bird and kingbird are usually found saddled on a horizontal limb in an orchard. The kingbird prefers to be near water, and will often use an elm, willow, or thorn-tree for a nesting site. From the ground, the nests resemble each other. They are about eight inches across, are composed outwardly of sticks, leaves, and moss, lined with fine roots and the like, and sometimes wood or cotton is used.

OCTOBER TWENTIETH

Crows usually build in pine-trees, but where there are no pines, they will choose an oak, chestnut, maple, or poplar, not always high ones either. The nest is made of sticks, leaves, bark, and mud, lined with dried grass or fine bark. Most of the large hawks make their nests in oak, maple, chestnut, or beech trees, in the groves or forests. They often occupy the same nest year after year.

OCTOBER TWENTY-FIRST

Of the birds that build in bushes or small trees, the following are the common species: catbird (twigs, leaves, and grass, lined with fine roots), black-billed and yellow-billed cuckoo (a sort of stick platform with a few dried leaves for a lining), and yellow-breasted chat (leaves, sticks, and bark, deeply hollowed and lined with soft grasses). Song sparrows' nests are very common.

OCTOBER TWENTY-SECOND

If it becomes necessary to protect their young, most birds seem to lose all fear. When surprised with her brood of chicks, the ruffed grouse and nearly all ground-dwelling birds will feign injury and flutter a few feet in front of the intruder, seemingly in great agony. The cries and actions are intended to lure you from the young. During the interval that you are watching or chasing her, the chicks have fairly melted into the earth.

OCTOBER TWENTY-THIRD

The stickleback is a small fish that inhabits the brackish waters from Cape Ann to New Jersey. Mr. Hornaday says that the abdomen of the male has been provided with a gland filled with a clear secretion which coagulates into threads when it comes in contact with the water. By means of this, a hood-like nest large enough for the female to enter is fastened to the vegetation at the bottom of the sea, and the eggs are deposited in the nest.

OCTOBER TWENTY-FOURTH

Birds seem to have a common language, so far, at least, as conveying a warning of danger is concerned. The appearance of a hawk, or an owl, will cause a catbird, robin, vireo, or song sparrow to give a warning note which is at once heeded by every feathered neighbor within hearing. Instantly all is quiet until danger has passed.

OCTOBER TWENTY-FIFTH

Grebes are expert swimmers and divers. Before the invention of smokeless powder, the adult birds could easily dive at the flash of a gun and were beneath the surface of the water when the shot struck. On land these duck-like birds push themselves over the ground on their breasts, or waddle along in a very awkward manner. They cannot rise from the ground, and even when rising from the water they must flutter over its surface for a long distance before they are able actually to take wing.

OCTOBER TWENTY-SIXTH

A strong aversion for snakes prevails with many of us. Most people think that the majority of snakes are poisonous. In reality the only dangerously venomous snakes in the United States are the rattlesnakes (fourteen species), the moccasin, and the copperhead, and they are not so aggressive as is generally supposed.

OCTOBER TWENTY-SEVENTH

How often the osprey or American fish-hawk is mistaken for an eagle! The fish-hawk is the only hawk that will poise in the air and then plunge into the water for its prey. Unlike the kingfisher, of which of course it is no kin, it carries its food in its talons instead of in its beak. In captivity it may be confined in an aviary with pigeons, quail, and other defenceless birds, and will not molest them.



HORNED GREBE. Winter Plumage.



OCTOBER TWENTY-EIGHTH

The bull-frog, whose legs are considered such a delicacy, often attains a length of fifteen inches. Its food consists of insects, small frogs, birds, mice, and young water-fowl, and one has been killed which had eaten a bat. Birds have learned to look upon it as a foe. Bull-frogs are fast becoming extinct because of the demand for their legs.

OCTOBER TWENTY-NINTH

The sharp-shinned hawk is smaller in body, but has about the same expanse of wing, as a domesticated pigeon. It is one of the few hawks that is destructive to birds and young poultry. Not only in the country, but in the city parks and villages, it is seen in late fall or in winter, skimming over the tops of the bushes ready to pounce upon a sparrow of any species the instant one appears.

OCTOBER THIRTIETH

Red squirrels and chipmunks differ in size, markings, and habits. The red squirrel is nearly twice as large as the chipmunk, it nests in trees, and is usually seen among the branches. It is red on the back and whitish beneath, sometimes having one black line along each side. Chipmunks live in the ground, hollow stumps, and roots. They are poor tree climbers and will not jump from tree to tree unless forced to do so. They have a black stripe down the back and two on each side.





OCTOBER THIRTY-FIRST

At dusk or early in the evening the weird, tremulous wail of the screech owl may be heard. Sometimes one will visit a favorite tree at the same hour evening after evening, and after sounding his cry several times, will glide away into the country to hunt for a supper of beetles, meadow mice or white-footed mice.

November

NOVEMBER FIRST

The chipping sparrow, field sparrow, vesper sparrow, mourning dove, red-shouldered black-bird, and purple grackle stay with us as long as the weather will permit. Mr. Chapman says: "Should the season be an exceedingly mild one, many of these birds will remain [about New York] until late in December."

NOVEMBER SECOND

The brown creeper, another denizen of the forests, groves, and village shade trees, is seldom noticed because of its small size and dull coloring, which blends perfectly with the tree trunks. It is often found in company with chickadees, nuthatches and kinglets. The creeper flies to the base of a tree, and winds his way to the top, hunting in the crevices of the bark for insects and insect larvæ, occasionally uttering a clear, feeble trill.

NOVEMBER THIRD

Unlike the bears one meets in certain kinds of animal stories, the real bear is the most easily frightened of all our large animals. His eyesight is defective, and his hearing not particularly good, but his keen nose more than compensates for those deficiencies.





CHICKADEES.

Upper, Mountain.

Lower, Hudsonian.



November Fourth

Artists often make the mistake of drawing a flying bird with its feet drawn up beneath its breast. Although some birds do hold their feet in this position, the herons, gulls, buzzards, and most of the hawks and eagles hold their feet and legs against the under side of the tail. The legs of the many species of herons are very conspicuous when the birds fly, for as the tail is short, they extend far beyond it.

NOVEMBER FIFTH

Some ants live in the ground, some make chambers in wood, while others build mounds of small sticks, dirt, and gravel, and construct roadways to and from them. They feed upon flesh, fruit, and plant substances. Their hind legs are provided with a sort of brush for cleaning the dirt from their bodies, and these legs in turn are cleaned by being drawn through the mouth.

November Sixth

The "'coon" (raccoon) is strictly a nocturnal animal, and spends the day in hollow trees, crevices in the rocks, or in thick underbrush, coming forth at night to hunt its food, — mice, birds, crabs, clams, eggs, acorns, and green corn. On the Pacific Coast it makes a neat round hole in the side of a pumpkin and takes out the seeds with its hands.

NOVEMBER SEVENTH

Hawks, owls, and eagles are bold defenders of their nests and young. Circling overhead, they suddenly bow their wings and dash at the intruder, turning quickly and swooping up again when only a few inches from his head. Instances are known in which persons have been wounded severely while meddling with the property of such birds of prey.

November Eighth

The tail of the brown creeper, and of all of the thirty-five species and sub-species of woodpeckers, is provided with stiff, pointed feathers which curve in slightly. With the chimney swift, each feather is armed with a spine. While woodpeckers cling to a tree trunk, and the chimney swift to the side of a chimney, their stiff tails help to support them.

NOVEMBER NINTH

Although the darning-needle, dragon fly, snake feeder, or snake doctor is perfectly harmless, Howard says, "Some believe that they will sew up the ears of bad boys; others that they will sting horses; still others that they act as feeders and physicians to snakes, especially to water snakes." They are the beautiful lace-winged insects that frequently dip down and pick up an insect from the surface of a pond or a river.

NOVEMBER TENTH

Conspicuous in the withered grass of upland meadows are the white flowers of the several species of everlasting. If picked before they begin to fade, they will keep through winter nearly as fresh and white as when the blossoming season was at its height.

NOVEMBER ELEVENTH

In the mountains of the North, the black bear is beginning to look for a suitable place in which to pass the winter. Many bears could wear their skins much longer if they would only hibernate before the snow begins to fly. Every hunter anxiously awaits the first fall of snow, which makes the tracking of bears so easy.

NOVEMBER TWELFTH

Nine out of every ten persons call salamanders or newts, "lizards." Lizards do not metamorphose; consequently they are never found in the water. They are very swift; lovers of the sun, and in the East are rarely seen north of a line parallel with southern New England. Salamanders are found either in the water or in damp places. They metamorphose, and when on the ground their efforts to escape are feeble.

November Thirteenth

Owls, woodpeckers, ducks, doves, pigeons, the ruffed grouse, Bob-white, belted kingfisher, ruby-throated hummingbird, chimney swift, short-billed marsh wren, and bush-tit lay eggs that are glossy white or various shades of white or buff-color. The eggs of the herons, cuckoos, robin, bluebird, catbird, Wilson's thrush, and hermit thrush are blue, green, or various shades of those colors.

November Fourteenth

Just at evening the white-throated sparrows, from the thickets, call their sweet, clear good-night to one another. As the darkness falls, the calls gradually cease, until only an occasional flutter is heard as some restless bird, not satisfied with its perch, chooses a new position for the night.

NOVEMBER FIFTEENTH

It is now time to build winter shelters for Bobwhite, and to begin to feed the winter birds. Cut pine or evergreen boughs, and pile them against the side of a log, leaving a *small* opening at each end for the quail to enter. Make the shelters on the south or east side of a hill or bank, where it will be protected from the cold winter storms. Now scatter buckwheat about your bird "wickey-up," as an Indian would call it, and they will soon find it. You should feed grain to your flock all winter.

NOVEMBER SIXTEENTH

The sparrow hawk is a summer resident in New England, Pennsylvania, New York, and Ohio. It nests in a cavity of a tree or in a deserted woodpecker's nest, and it will return to the same locality year after year. The bird is no larger than a robin, and instead of being a sparrow killer, it lives chiefly upon insects.

November Seventeenth

The opossum is the only North American member of the order Marsupialia which has so many representatives in Australia and New Zealand. The marsupials are the animals that have pouches over their abdomens in which they carry their young. Some people wrongly include in this order the pocket gopher, pocket mouse, and other mammals that have cheek pouches in which they carry food.

NOVEMBER EIGHTEENTH

Accounts of the capture of "extremely rare and valuable monkey-faced owls," are often published. These owls are nothing more than barn owls, which are so common in the Southern States. They nest in holes in banks, in cavities in trees, or in church belfries. A pair has occupied one of the towers in the Smithsonian Institution at Washington, for several years.

NOVEMBER NINETEENTH

The common meadow mouse makes a docile and interesting pet, if captured without frightening or exciting him. Within fifteen minutes from the time of his capture he will often lose all fear, and while you hold him he will wash his face with his paws.

NOVEMBER TWENTIETH

The snowy, and the great-gray, owls, both inhabitants of the North-land, are the largest American members of the owl family. They are more frequently seen in the daytime and are much tamer than other owls, often permitting one to approach very close to them. Except in very severe weather they rarely come below the Canadian border. In disposition the great-horned owl and the snow owl are considered fierce, still they can be tamed, even if captured when adult.

November Twenty-first

It is a general impression that bears hug their victims to death. When enraged a bear will charge to within a few feet of a man, rise upon its hind legs, and strike him down with its fore paws, or hold him with them while it attacks his neck and shoulders with its teeth. After inflicting several wounds a bear will often leave its victim without further injuring him.



THE GREAT HORNED OWL AND THE SNOWY OWL CAN BE TAMED.



November Twenty-second

The blue jay is one of the birds who remain with us throughout the entire year. His habits are not the same in all parts of his range. In some localities he is strictly a bird of the forests, while in others, he is common in our city parks and shadetrees. A relative of the crow, he is charged with robbing nests of their eggs and young birds. He is fond of nuts also, and will eat any kind that his strong bill can open.

NOVEMBER TWENTY-THIRD

Hawks and owls will respond quickly if you make a squeaking noise like a mouse, and a fox will stop and prick up his ears, then turn and proceed in the direction of the sound until he discovers its source. A weasel will dash toward the hunter, and even after it sees him, its curiosity keeps it from retreating at once.

NOVEMBER TWENTY-FOURTH

The Thanksgiving turkey that we eat about now "is derived from the wild turkey of Mexico, which was introduced into Europe shortly after the Conquest and was thence brought to eastern North America." (Chapman and Reed.) The tips of the upper tail-coverts of the domestic and the Mexican turkey are whitish, while those of the wild turkey of eastern United States are rusty brown.





NOVEMBER TWENTY-FIFTH

A skunk knows every woodchuck and rabbit burrow in his neighborhood. In the woods he will often visit hole after hole with great precision, but in the meadows he is more apt to follow the fences, frequently cutting across a corner in order to shorten the distance to a burrow. Probably experience has taught him that rabbits are often found in woodchuck holes and that meadow mice also take shelter in them during the winter.

NOVEMBER TWENTY-SIXTH

The tallest and heaviest of all birds is the African ostrich, but the condor of South America has the widest expanse of wing. In the United States, the California vulture, once very rare, but now steadily increasing, is broadest across the wings. The whooping crane stands the highest, and the swans are the heaviest of our birds.

November Twenty-seventh

Do not kill the bats that you find passing the winter in your garret, or those that fly into your house in the summer. They destroy large numbers of gnats and mosquitoes, and do no harm. The belief that they get into one's hair is ridiculous, and it is seldom that they are infested with vermin. A South American species has been known to suck the blood of horses and cattle.

November Twenty-eighth

On returning to the nest and discovering that a cowbird has laid an egg in it, some species of birds will roll the egg out. But the phœbe, redeyed vireo, chipping sparrow, and yellow warbler will sometimes cover the eggs with nesting material and build up the sides of the nest, thus burying its own and the cowbird's egg. Another set of eggs is then laid and the bird begins to sit, but the buried eggs are too deep to be affected by the warmth of the parent's body, so the "lazy-bird's" purpose is defeated.

NOVEMBER TWENTY-NINTH

In the abandoned birds' nests that are placed near the ground in shrubs and small trees close to hazel-nut bushes and bitter-sweet vines, you will often find a handful of hazel-nuts or bitter-sweet berries. They were put there by the white-footed mice and the meadow mice who visit these storehouses regularly. Very often a white-footed mouse will cover a bird's nest with fine dried grass and inner bark, and make a nest for itself.

NOVEMBER THIRTIETH

Between now and the first of March you may expect to see large flocks of red-polls feeding on seeds among the weeds and low bushes, and crossbills in the pine and spruce trees shelling seeds from the cones.



A FOUR-STORIED WARBLER'S NEST. EACH STORY REPRESENTS AN ATTEMPT BY THE WARBLER TO AVOID BECOMING FOSTER PARENT OF A YOUNG COWBIRD.



December

DECEMBER FIRST

Besides being the means by which they capture their prey, the talons of an eagle, hawk, or owl are their weapons of defence. Their bill can really inflict but little injury. When wounded one of these birds will throw itself upon its back, and strike with its feet, burying its talons deep in the flesh of its adversary.

DECEMBER SECOND

The gray or wood gray fox lives about the rocks and ledges. It is a noted tree climber, and, being less fleet than the red fox, it often eludes pursuing dogs by taking shelter in the rocks, or amid the branches of a tree. Running a short distance, it will spring to the side of a tree and scramble up the trunk. Sometimes it falls back and is obliged to repeat the performance several times before it is able to gain the first branches, from which it can easily climb from limb to limb as high as it chooses.

DECEMBER THIRD

The junco and the horned lark in some localities are called "snowbird," but the snow bunting, or snowflake, is the only bird correctly so called. These birds do not look alike, but the appearance of the three species in large numbers during the winter is confusing to one not versed in bird-lore.





DECEMBER FOURTH

Why is it that most carnivorous animals, as well as most birds of prey, refuse to eat shrews and moles? It may be due to the strong pungent odor of their bodies. Cats will catch them and play with them, but owls are the only creatures that seem to care for them for food.

DECEMBER FIFTH

Mr. Newhall says that a lady told him that an Oneida Indian once cured her grandfather of a severe illness. He afterward learned that the medicine used was an extract of witch-hazel, and later prepared and sold it widely.

DECEMBER SIXTH

The great-horned owl, hoot owl, or cat owl, is the only bird that from choice will feed upon skunks. Although rabbits are abundant and easy to capture, his Owlship seems to prefer to battle against the long teeth and disagreeable odor of the skunk in order to dine upon its flesh. Nearly all owls of this species that are killed in winter are strongly scented with the skunk's odor.

DECEMBER SEVENTH

The two glands that hold the skunk's vile-smelling fluid are about the size and shape of a pecan nut. They are strictly organs of protection and are never used except in extreme cases of defence. They are situated between the skin and the flesh near the root of the tail. When brought into use, a number of strong muscles encircling them contract, and a fine spray of the fluid is thrown off; the tail taking no part in its distribution.

DECEMBER EIGHTH

Snakes are not slimy and clammy; they do not cover their food with saliva before swallowing it, and the forked flexible member which darts in and out of their mouth is not a "stinger," but the tongue. They do not swallow their young in cases of danger, and they have no power to "charm," or hypnotize.

DECEMBER NINTH

The bald-faced hornet attaches his large, coneshaped, paper nests under the eaves of houses, in garrets, or to the limbs of trees. Collecting the minute fibres that adhere to the weather-beaten fences and buildings, the hornets mix it with saliva and make a crude quality of paper. To enlarge a nest, the inside walls are torn away and the material is used to add to the outside layer. Like bumblebees, the workers and drones die in the fall, the queen hibernating.

DECEMBER TENTH

Beautiful as the deer are and innocent as they seem, they cannot be trusted, as attendants in zoological parks can testify. A bear will seldom attack a keeper without provocation, and when he does he will usually give warning before he charges. Not so with a buck of the deer family. Greeting his best friend in the most cordial manner, he may, without warning, charge when the man's back is turned, and gore or trample him to death.

DECEMBER ELEVENTH

The American eagle is more often spoken of as the "bald eagle," a name which misleads many people since the bird is not "bald" at all. The top of its head is as thickly feathered as the heads of most birds. Probably some one thought that the white head and neck made the eagle appear bald, hence the name. The birds reach the third year before the head and tail begin to turn white.

DECEMBER TWELFTH

The little striped skunk, or hydrophobia skunk of the South, West, and Southwest, is about half the size of our common skunk. It frequently goes mad and attacks people with great fury. Cowboys and other persons compelled to sleep on the ground in the open have been bitten by it and have died of hydrophobia. It is the only North American animal that will deliberately attack a sleeping person.

DECEMBER THIRTEENTH

"Till a comparatively recent date it was not certainly known that eels have eggs which develop outside of the body. Even now the breeding habits are scarcely known, but it is supposed that the spawning takes place late in the fall or during the winter, near the mouth of rivers, on muddy bottoms." (Bean.)

DECEMBER FOURTEENTH

The so-called glass snake is truly speaking not a snake, but a legless lizard. It forms part of the food of the true snakes. Its body is very brittle, a light blow with a stick being sufficient to break it in two. Although it is true that another tail will grow (provided not more than a fourth of the body is missing), it is *not* true that the broken pieces will eventually unite, or that a head and body will grow on the tail piece.

DECEMBER FIFTEENTH

How often you read of, or heard some one speak of, the whale as "the largest of fish." A whale is a mammal, because it suckles its young. It is not only the largest of living mammals, but, according to Mr. Lucas, the large ones are larger than any of the enormous reptiles that inhabited the world before the advent of man, and whose fossil remains may be seen in any of our large museums.

DECEMBER SIXTEENTH

The quiet little tree sparrows spend the winter with us feeding on the seeds of weeds and grasses. You will find their tracks in the snow where flocks have been eating ragweed seeds, and you are likely to see some of them fluttering about in the bushes along the river banks, or in the frozen swamps uttering a pleasing call note. They can be identified by the distinct black spot on the breast and their pinkish bills.

DECEMBER SEVENTEENTH

There is no better time to study the tracks and nightly doings of animals than after the first fall of snow. Start early in the morning and see how many stories the tracks have written.

DECEMBER EIGHTEENTH

Following the tracks of a white-footed mouse in the woods, they lead you to a hollow log, at the entrance of which are a number of beech-nut shells, remains of a midnight feast taken from a winter store-house. From here the mouse went into the field, and then the tracks stop abruptly, leaving you to guess the rest. Possibly one of the several species of owls that inhabit your locality could explain the sudden ending of the trail.

DECEMBER NINETEENTH

Continuing through the woods, you soon discover the trail of two birds whose feet are not quite the size of those of bantam chickens. Following them a few hundred yards you come to a bedded spot in the snow, beneath the drooping branches of a spruce. Not far from here, two ruffed grouse rise, with a loud whirr of wings, and speed off before your startled eyes. These are the birds whose tracks you have been following.

DECEMBER TWENTIETH

Don't follow a fox track with the intention of overtaking the maker, unless you have dogs. He may be ten miles away at that very moment, and even if you should draw near to him, he is almost certain to elude your sight by sneaking away.

DECEMBER TWENTY-FIRST

You may find where a muskrat has left the stream and started across the meadow to a marsh near by. Suddenly a mink's track breaks into the trail and follows in the same direction, and you soon come to a spot where the snow is much disturbed, and the tracks mingle in confusion. Blood-stains on the snow and matted places show where the two have fought a battle for existence. A broad, deep trail leading to a stump indicates that some object has been dragged across the snow, and there you find the half-eaten remains of the muskrat.

DECEMBER TWENTY-SECOND

What tracks are these, trailing along the fence between a brush-lot and a buckwheat field? At the corner of the fence human footprints and those of a dog join them. All now travel in the same direction, first on one side of the fence, then on the other. Finally the bird tracks stop abruptly and the marks of wings on each side of them show that the birds have taken flight. The dog has suddenly bolted, and where his tracks turn back is a dash in the snow and a few quail feathers which tell the story; a hunter has bagged his game.

DECEMBER TWENTY-THIRD

An open brush-lot bordering woods is the best place to find cotton-tail rabbit tracks. Judging from the number of tracks and the spaces between them, the rabbits have been playing tag, or attempting to break the record for running and jumping. They did rest, however, for beneath a bush, and by the side of a stump, we find impressions in the snow where they sat down. If it is a warm day, you are apt to surprise one taking a sun-bath.

DECEMBER TWENTY-FOURTH

Save in the dome of the Capitol, could our national bird, the bald eagle, select a more appropriate place for its nest than at Washington's home? In a patch of heavy timber at Mt. Vernon, Va., a pair of eagles have nested for several years.



COTTONTAIL RABBIT TAKING A SUNBATH.



DECEMBER TWENTY-FIFTH

Mistletoe is a parasitic evergreen shrub that is abundant in the South. It grows in thick clusters on limbs of various species of trees. Its flowers are whitish, and after the flowering season, clusters of white berries take the place of the blossoms. As the berries are ready to fall, they become soft and sticky, and when they drop they adhere to the bark of any limb they strike, and the seeds take root and are nourished by the sap of the tree.

DECEMBER TWENTY-SIXTH

You might take a Christmas walk over the ice and visit a muskrat's house of sticks and other rubbish. If the occupants are at home, you will notice a frosty spot on one side of the mound. A muskrat hunter would thrust his spear through the thin wall and impale one or more of the rats upon its tines. Many of the clods composing the house bear the nose-print of the maker.

DECEMBER TWENTY-SEVENTH

While sleigh-riding you are likely to see a flock of trim, sober-colored birds perched close together, feeding on the berries of the mountain ash tree or on decayed apples. They have crests and wax-like red dots on the inner feathers of their wings. These are cedar-birds, or cedar waxwings. They often remain with us throughout the year.

DECEMBER TWENTY-EIGHTH

"The name 'burl' is applied to all excrescent growths on trees, except true knots. The origin of these wart-like swellings is imperfectly known, but they can generally be attributed to injuries by woodpeckers, gall insects, and to the irritating and continued growth of fungi in the woody tissues at such points." (Adams.)

DECEMBER TWENTY-NINTH

A flock of pine grosbeaks feeding on buds in a maple or an apple tree on a cold winter's day is a pleasing sight for any bird lover. They are the size of a robin, and the male has a rose-colored head, neck, breast, and back. They are quiet birds and very tame, even permitting a person to climb the tree and approach within a few feet, before they take flight. It is only during the severest weather that they migrate south into southern New York, Pennsylvania, and New England.

DECEMBER THIRTIETH

North America can boast of the largest deer in the world, the Alaskan moose; as well as the largest of flesh-eating mammals, the Kodiak bear. We also have more rodents and cats than any other country.



BONAPARTE GULL.



DECEMBER THIRTY-FIRST

Sometimes the lakes freeze over, and the gulls are compelled to seek the large open rivers, and ask alms from the inhabitants along their banks. At such times they become very tame, so if you will place food within their reach, they will soon find it and call upon you from day to day.









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